

American Artisan

and Hardware Record

Sheet Metal - Roofing - Warm Air Furnaces - Stoves

Vol. 92, No. 1

CHICAGO, JULY 3, 1926.

\$2.00 Per Year

USE HORSE HEAD ZINC "Wherever Permanence is Required"



First Congregational Church, Fulton, N. Y. Standing Seam Horse Head Zinc Roof laid by Joseph Cashier.

New Jersey
zinc

When Mr. Moore writes that "We have never been called back on this job to spend a penny on maintenance" he states the experience of Sheet Metal Workers with Horse Head Zinc in all parts of the country.

You can use Horse Head Zinc successfully in your work too. It is easy to work and gives permanent, repair-free installations. Send the coupon for a sample and test Horse Head Zinc yourself.

All standard shapes and sizes of Horse Head Zinc conductors, gutters and fittings are made and distributed by the following fabricators:

DAVID LUPTON'S SONS CO.	Philadelphia, Pa.
THE J. M. & L. A. OSBORN CO.	Cleveland, Ohio
KLAUER MANUFACTURING CO.	Dubuque, Ia.
HOLBROOK, MERRILL & STETSON	San Francisco, Oakland and Los Angeles, Cal.
SHEET METAL MANUFACTURING CO., INC.	Brooklyn, N. Y.

The New Jersey Zinc Company
160 Front Street New York City



"WE TOP 'EM ALL"

Joseph Cashier
SHEET METAL AND ROOFING CONTRACTOR
101-105 Fulton Street
Fulton, N. Y. March 15th, 1926.

The New Jersey Zinc Co.,
160 Front St.,
New York City.

Gentlemen:

Attention Mr. C. F. Deatty

A few years ago we covered the First Congregational Church at Fulton, N. Y. with Horse Head Zinc. We have never been called back on this job to spend a penny on maintenance.

Our mechanics find that Horse Head Zinc is the easiest of all metals to work. They like the feel of Zinc.

We make every effort to sell the prospective builder the idea of using Zinc for all flashing work. Flashings we find are the source of 98% of the roofing troubles to-day and we like to see Zinc used in these weak points on every roof we apply.

We sincerely hope that our experience with Zinc will serve to bring other workers of our trade into the fold as users of this material wherever permanence is required.

Very truly yours,
JOSEPH CASHIER
By C. Mack, Moore

THE NEW JERSEY ZINC COMPANY
160 Front Street, New York City

Please send me a sample of Horse Head Zinc so that I can see how easy it is to work with it.

NAME _____

ADDRESS _____

7-A



Fact No. 5 Watch for No. 6
in an early issue

"AFCO" Grates Are Designed and Built Like Locomotive Grates

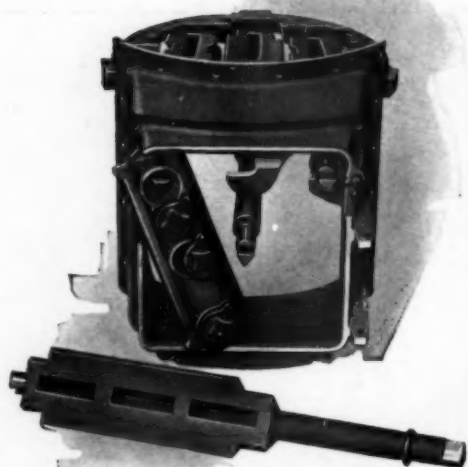
The heavy grates are an outstanding feature of "AFCO" Furnace construction. They are triangular in shape and hollow in the middle. The bars operate separately, either side may be turned to the fire. This feature prevents warping.

Ashes can be removed around the sides of the fire pot without wasting coal through the center. Should any one of the grate bars burn out, through failure to empty the ash pouch, it can be replaced in a few minutes by merely removing the grate bar cover, taking out the old bar and inserting a new one. No tools are necessary.

"AFCO" Grates will easily crush clinkers—there is no need for clinker tongs.

The scientific construction of "AFCO" Furnaces insures long life and satisfied users. You should sell them in preference to all others. You will build your own business and help to create a bigger market for the Warm Air System of Heating.

*Don't put it off. Send today for our
Special Dealer Proposition.*



American Furnace Co.

2719-31 Morgan St. Dept. 33 St. Louis, Mo.

The "AFCO" Furnace is
"Built Like a Power Boiler"

BOOMER

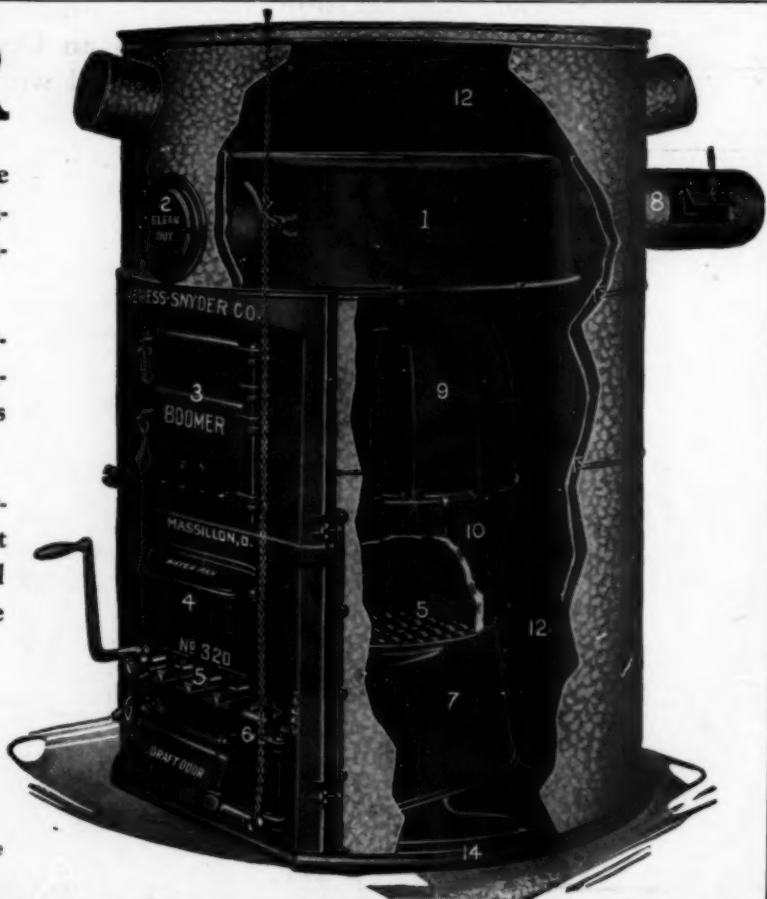
THIS is our latest addition to the Boomer line. We heartily recommend it for your favorable consideration.

The severe tests we have given this furnace have proven its durability. The unsolicited reports we received from users last winter have been most flattering.

For durability, economy, easy to operate, easy to set up and the low price at which we offer this furnace, you will make no mistake in arranging for the agency.

THE HESS-SNYDER CO.
MASSILLON, OHIO

Makers of BOOMER FURNACES for Forty-Three
Years



42 Sheet Metal Shops in one section—and all 42 use

151
2485
Pat 4



Exclusively

OHIO Metal gives more actual satisfaction in the shop or out—wherever it is used on the job—than these sheet metal workers of one district have ever enjoyed before.

Blanking, shearing, punching, forming on a brake or bending by hand, Ohio Metal meets all working conditions, speeds up work and makes better results possible in the least amount of time. Sheet metal workers save money by its use. It conforms to a journeyman's own

ideas of what sheet metal should be.

And more than that—Ohio Metal is an Open Hearth Copper-Alloy Steel with all the rust-resisting advantages for permanently good work, and satisfies the customer because it is also genuinely economical.

There are thousands of other sheet metal workers—in addition to these forty-two in one district—who will use none other. Their reasons are also your reasons for trying it in your own sheet metal work.

WHEELING CORRUGATING COMPANY, WHEELING, W. VA.



NEW YORK
ST. LOUIS

PHILADELPHIA
KANSAS CITY

CHICAGO
CHATTANOOGA

MINNEAPOLIS
RICHMOND

NA823/X.11/26



For Fast Work

YOU have got to do good work, and work fast, to make any real money.

Moncrief Furnaces enable you to work fast, do a real job, make real money

—because the hard, slow work of fitting them together smoke and gas tight has been done at the foundry. The edges of all sections have been ground straight and smooth.

Moncrief Furnaces are time savers, money makers and reputation builders.

Wire, write, phone or call

The

Henry Furnace & Foundry Co.

3471 E. 49th Street

CLEVELAND, OHIO

Manufacturers of single and double wall pipe and fittings, galvanized pipe and fittings, etc.

Eastern Sales Offices:

F. H. HANLON
Batavia, New York

W. S. McCREA
105 Federal St., N. S., Pittsburgh, Pa.

Western and Southern Distributors:

JOHNSON FURNACE CO.
Kansas City, Missouri

MONCRIEF FURNACE CO.
Atlanta, Ga.

MONCRIEF FURNACE & MFG. CO.
Dallas, Texas

MONCRIEF FURNACES



20 years of Success and Service behind every Wise Furnace

THE dealer doing business with Wise furnaces and the Wise agency sells furnaces that have proven successful and unusually satisfactory for over twenty years.

He offers to his public furnaces that are noted for their great durability and numerous heating and convenience features.

The dealer who secures the Wise agency for his territory aligns himself with a company that believes and lives up to its policy of real Service in deliveries and all other transactions.

The Wise guarantee is this:

Highest Quality, Best Workmanship, and Absolute Satisfaction to the dealers.

Wise furnaces represent high grade warm air heating service at an economical cost.

Write for interesting catalog and agency details NOW

The WISE FURNACE CO.
AKRON, OHIO



Creating a Demand For SMOKELESS Heating



Reproduction of Half Page Advertisement in the SATURDAY EVENING POST

Few people realize that SMOKE is FUEL. Smoke is composed largely of carbon which is rich in heat value, and allowing it to escape unused up the flue means a serious waste of fuel.

We are telling the public, through the medium of the SATURDAY EVENING POST, of the high cost of smoke, and how this waste can be eliminated by installing the SUPER-SMOKELESS Furnace that *burns its own smoke*.

This advertising is creating a big demand for SUPER-SMOKELESS Furnaces. The dealer who sells them is in a distinct class—actually above competition. He can increase his business and get good prices for his work.

It will pay you to write TODAY for full information about our Exclusive Dealer Proposition and Utica Merchandising Plan

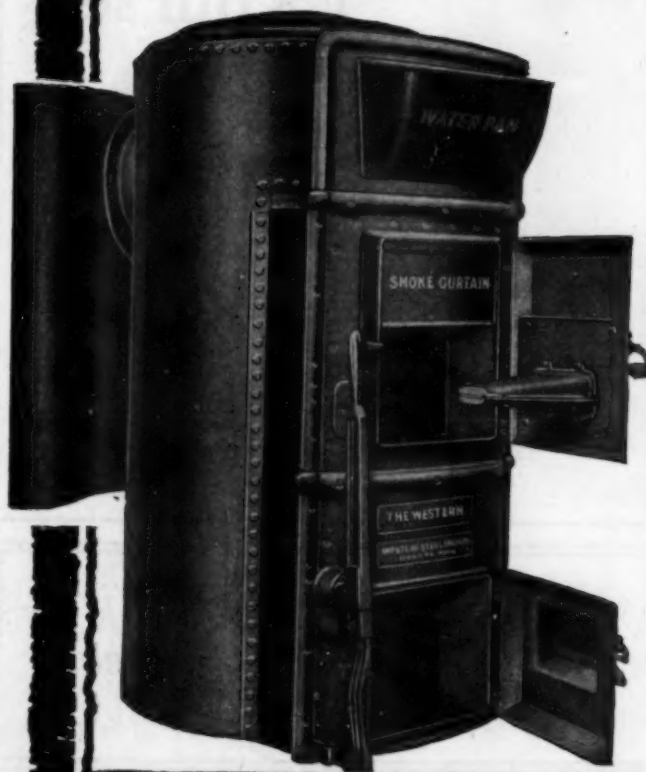
UTICA HEATER COMPANY

"Pioneers in Smokeless Combustion"

UTICA, N. Y.

CHICAGO, ILL.

How We Help You



"Sell What the Public Wants"

Let us send you a Western Boiler Plate Furnace specially painted up for your display floor. We also furnish Western dealers a constructive selling plan which includes allowance for newspaper advertising, attractive literature, mailing service—besides a long profit for the dealer and liberal terms.

Sell the Furnace the Public wants.

"Western" Boiler Plate

Furnaces are

Permanently gas tight. Built of heavy copper bearing boiler plate, with joints cold riveted and calked, making the tightest and most durable construction known.

Economical in operation. Designed on a practical plan, without useless frills, but including the essentials of economical combustion—hot blast gas consumer, V-baffle in radiator, large brushing surface.

Economical in first cost. Although quality is built into every part of the Western, its price is such that it even competes with a cast furnace.

Practical in design, with common sense features such as corrugated top to take up expansion and contraction, and heavy double grates which are easily shaken from a standing position.

Western Steel Products Co.

Duluth, Minn.

Minneapolis, Minn.

Mention AMERICAN ARTISAN in your reply—Thank you!

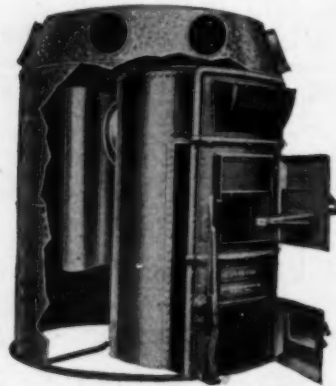
Standard Dealers Know in Advance



9 styles and 47 sizes of steel and cast iron furnaces carried in stock at all times. Nowhere else can you find such a variety to select from.

They are sufficient to meet demands from all classes of trade.

THAT every buyer will become a Booster. The furnaces shown on this page have proven their ability to return dollar for dollar to the consumer in extra service rendered. Standard Dealers are also assured of real profits by our Dealer Plan, which is different.



Furnace Supplies, such as the following, are nationally known as the Standard of Comparison;

HANDY PIPE & FITTINGS
R I NO STREAK REGISTERS
H & C No. 170-No. 190 REGISTERS
STAN-CO REGISTERS
STEEL & SEMI STEEL REGISTERS
WISS SNIPS
PEXTO TOOLS

Everything needed by the Furnace Installer

STANDARD FURNACE & SUPPLY CO.

OMAHA, NEBR.

Warehouse — Sioux City, Ia.

For Your Prospect

QUEEN FURNACES

They provide rapid circulation of air, perfect combustion, convenient and efficient air moistener, smoke pipe which can be taken off at any angle, flat or triangular grates, and suitability to any fuel.

Floral City Heater Co.

Main Office:
MONROE, MICHIGAN

OR



For Yourself

ARE BEST BECAUSE

They possess undisputed exceptional merit, our guarantee of long service, exclusive features and adaptability to any job.

We sell only to the trade. Write today for catalog, agency proposition and merchandising helps.

Floral City Heater Co.

1654 Monadnock Bldg.,
CHICAGO, ILL.

The latest news about the Warm Air Heating Industry is to be found in this Journal every week.

This is the only trade Journal covering this field published every week.

Investigate Robinson Smoke Consumers

Made To Fit
Any Furnace

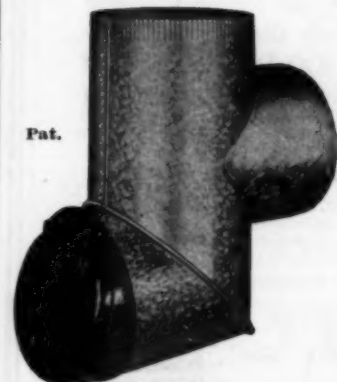
26

Easy to Operate

(By under draft,
check chain in
living quarters)

Saves Fuel

Because it burns
the smoke.



Pat.

THE ROBIN ON SMOKE
CONSUMER

Saves
Money

Because it
saves fuel
and means
less frequent
house clean-
ing and re-
decoration.



IN OPERATION

Easy To
Install

No skill re-
quired.

Moderate
Cost

More than
pays for it-
self in con-
venience and
economy.



INSTALLED

A Business
Builder

WRITE FOR INFORMATION TODAY

The A. H. Robinson Company

Makers of the well known
Robinson Steel Furnace

5103 Detroit Avenue

Cleveland, Ohio



Bang!

Up go your sales

INSTALL the Celebrated Thatcher
Tubular Furnace, and you will make
friends of your customers, more cus-
tomers of their friends—and up go
your sales.

Made in seven sizes, to meet all require-
ments, this warm air furnace is equipped
with the porcupine fire pot, revolving grates,
and special warm air cast iron tubes which
cause rapid circulation—the air is warmed
quickly and not burned.

The Celebrated Thatcher Tubular delivers
its heat so efficiently and uniformly that it
holds the premier position amongst furnaces.

Write today and let us tell
you of the hearty coopera-
tion we extend to dealers.

THE THATCHER COMPANY

Formerly Thatcher Furnace Co.

Since 1850

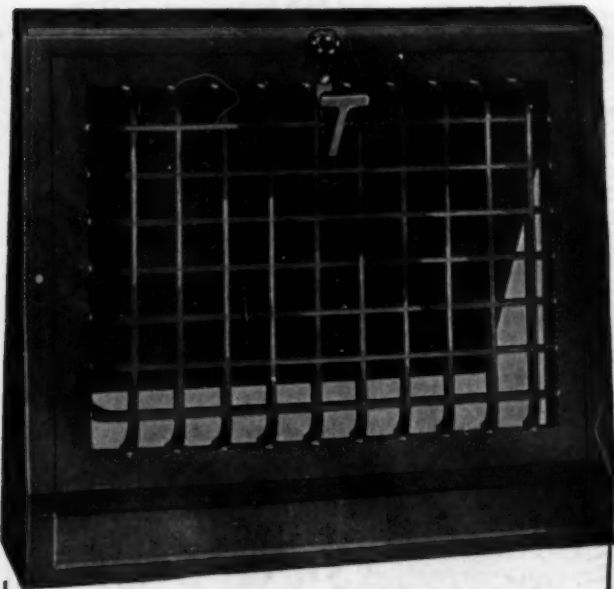
CHICAGO
341 N. Clark St.

NEWARK, N. J.
28-41 St. Francis St.

NEW YORK
21 W. 44th St.

THATCHER

BOILERS - FURNACES - RANGES



Have you seen it?
WALWORTH
New Standardized
 STYLE B
Baseboard Register

NOT only made throughout in accordance with the rules of the Standardization Committee but it is the *neatest* durable register ever made to sell at a popular price.

Simple, easy and accurate in operation, cast face made of the best iron, finished in all the popular finishes and made in the following sizes:

8x10 inch	2 1/4	base extension
8x12 "	2 1/4	" "
9x12 "	2 1/4	" "
10x12 "	3 1/4	" "

Study the features of this new register.

Write today for full particulars and prices on the Walworth New Standardized Style B Baseboard Register.

Order some for that next job—your customers will want them.

Made by the makers of Walworth Double Gratings, Semi-Steel Registers, Side Wall and Floor Registers, Ventilators, Borders and Casings Rings.

**THE WALWORTH RUN
 FOUNDRY COMPANY**

West 27th Street and N. Y. C. & St. L. R. R., Cleveland, Ohio

Distributors:

ROBINSON FURNACE CO., Chicago, Ill.
 HART MFG. CO., Louisville, Ky.
 PHILLIPS & BUTTORFF MFG. CO., Nashville, Tenn.

Eastern Representatives:

PENN TINSMITH'S SUPPLY CO., Philadelphia, Pa.

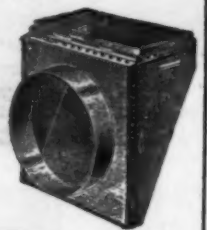
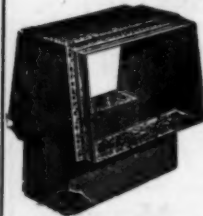
This Pipe
gives better service

JUST take two sections of Chicago Pipe and snap them together—see for yourself how easily, quickly and firmly they fit together—see how strong CHICAGO Pipe is made and notice the extra weight and high quality of the material.

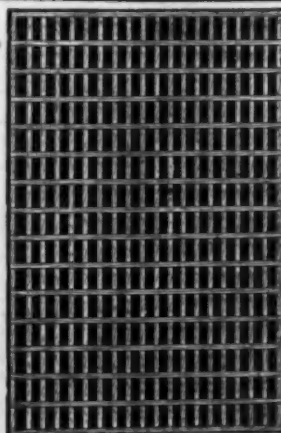
Yes, we will send sample—just write today for our Catalog No. 22 and price list.

CHICAGO FURNACE SUPPLY CO.

1276-78-80-82 Clybourn Ave.
 CHICAGO



CHICAGO
FURNACE PIPE
AND FITTINGS



AMERICAN
 WOOD
REGISTERS

are

thoroughly inspected and before leaving the factory must come up to the

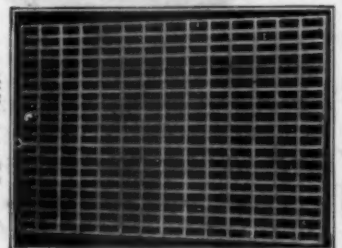
AMERICAN STANDARD, which assures you the highest quality.

**THE AMERICAN WOOD
 REGISTER CO.**
 PLYMOUTH, IND.

EXTRA
HIGH GRADE
WOOD FACES
Eaglesfield

MADE by special machinery. Finest white quartered oak and High Speed Ball Bearing mechanism insures perfect construction. Specially designed grooving saw cuts all grooves exact size. Eaglesfield Wood Faces are stronger than others—the cross pieces are 1/16 inch deeper than those used in other faces.

Single orders or carloads promptly at fair prices. Write today.



EAGLESFIELD VENTILATOR CO.

918 DORMAN STREET

INDIANAPOLIS, IND.



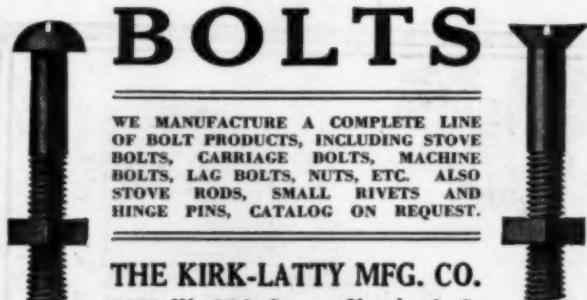
The Improved Air Duct Increases the Heating Capacity about 30 per cent in our

WASHINGTON HOME FURNACE

Placed above floor, hence saves the cost of digging cellar. Produces circulating moist heat for 3 to 6 rooms. Only stove or furnace ever built without name plate or advertisement on the outside. (Name is molded on inside of front feed door.) Beautiful grained mahogany finish harmonizes with finest mahogany furniture. (Also in plain finish for one-third less.) Made in the same plant in which we manufacture 100,000 Washington stoves and ranges annually. Can ship promptly as we now manufacture fifty furnaces per day. *Nationally Recognized and Advertised.* Correct location of water pan. Most beautiful and most expensively constructed furnace now on the market. Write today for exclusive agency plan, your district may be open.

Gray & Dudley Company, Nashville, Tennessee

"We melt more than 100,000 Pounds of Southern Pig Iron per Day"



BOLTS

WE MANUFACTURE A COMPLETE LINE OF BOLT PRODUCTS, INCLUDING STOVE BOLTS, CARRIAGE BOLTS, MACHINE BOLTS, LAG BOLTS, NUTS, ETC. ALSO STOVE RODS, SMALL RIVETS AND HINGE PINS, CATALOG ON REQUEST.

THE KIRK-LATTY MFG. CO.

1971 W. 85th St. Cleveland, O.

IRON AND WOOD
STOVE PATTERNS
QUINCY PATTERN COMPANY
QUINCY, ILLINOIS

PATTERNS
FOR STOVES AND HEATERS
VEDDER PATTERN WORKS
FIRST-CLASS IN WOOD AND IRON
ESTABLISHED 1835 TROY, N. Y.

PATTERNS FOR STOVES AND HEATERS
THE CLEVELAND CASTINGS PATTERN COMPANY
CLEVELAND, OHIO

Don't Forget These Dates!
July 30th & 31st

You are to go to—

COLDWATER, MICHIGAN

for the—

ANNUAL OUTING

of the Michigan Sheet Metal and Roofing
Contractors' Association

Write to Frank Ederle, Secretary, 1121 Franklin Street, S. E.
Grand Rapids, Michigan



It will pay you
To Buy your
Stove Trimmings
From Us

LARGE selection—
beautifully finished.
Made from our own
steel.

Let us quote you

ATASCO

AMERICAN TUBE & STAMPING
COMPANY
THE MILL COMPLETE

Write
For Our
Illustrated
Book of
Order Blanks

You'll find this book handy. It explains
how and simplifies ordering Stove, Fur-
nace and Boiler repairs from the—

Largest and Most Complete Stock

NORTHWESTERN
STOVE REPAIR CO., CHICAGO

"American Seal"
FURNACE CEMENT

Roof Cement — Stove Putty
Plumbers Putty

PAINTS and SPECIALTIES

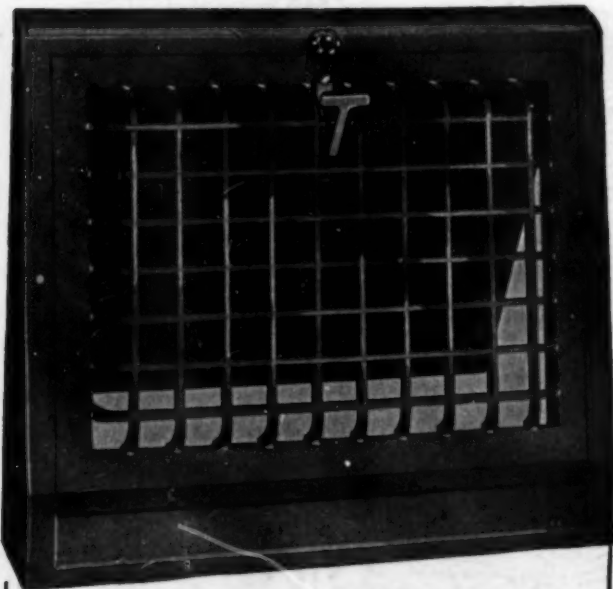
WILLIAM CONNORS PAINT MFG. CO.
TROY NEW YORK

Established 1852

JAMES L. PERKINS

Western Distributor

140 S. Dearborn St., Chicago, Ill.



Have you seen it?
WALWORTH
New Standardized
 STYLE B
Baseboard Register

NOT only made throughout in accordance with the rules of the Standardization Committee but it is the *neatest* durable register ever made to sell at a popular price.

Simple, easy and accurate in operation, cast face made of the best iron, finished in all the popular finishes and made in the following sizes:

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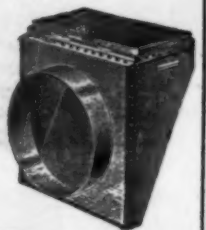
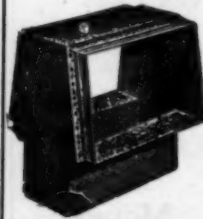
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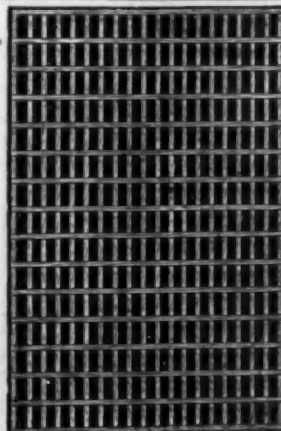
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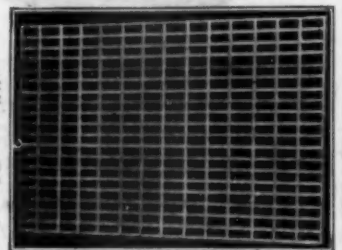
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1971 W. 85th St. Cleveland, O.



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Stove Trimmings
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LARGE selection—
beautifully finished.
Made from our own
steel.

Let us quote you

ATASCO

**AMERICAN TUBE & STAMPING
COMPANY**
THE HILL COMPLETE

**IRON AND WOOD
STOVE PATTERNS**
QUINCY PATTERN COMPANY
QUINCY, ILLINOIS

PATTERNS
FOR STOVES AND HEATERS FIRST-CLASS
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NEW YORK

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Published to serve
the
Warm Air Furnace,
Sheet Metal, Roofing,
Stove and Hardware
Industries

Founded 1880

American Artisan and Hardware Record

Yearly Subscription
Price:
United States \$2.00
Canada . . . \$3.00
Foreign . . . \$4.00

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J. F. Johnson

G. J. Duerr
Frank McElwain

Eastern Representative: W. C. White, 1478 Broadway, New York City

Vol. 92, No. 1.

CHICAGO, JULY 3, 1926.

\$2.00 Per Year

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AN ACHIEVEMENT

An explanatory note regarding service to readers of AMERICAN ARTISAN. This paper is now nearing the completion of a half century of service. For almost fifty years it has catered to the needs of the men in the industries which it represents. At no time during its long and successful career has AMERICAN ARTISAN been in a better position to render complete, adequate service to its readers than it is today. In addition to the matter contained in our regular weekly publication, we maintain Service Departments for the use of our readers. If you have a problem to solve, we courteously invite you to submit it to us for solution. In what better way can we learn of your problems than from you direct?

ARMCO
INGOT-IRON
-SHOP-
"Quality Work with Quality Iron"

ARMCO Ingot Iron, because of its high purity, is the lowest cost metal ever produced, based on its strength.

Guaranteed superior ARMCO Ingot Iron has been a long period of superior performance under the most severe test.

More and more consumers are turning to ARMCO Ingot Iron for its strength, resistance to rust, etc.—all because of its high purity.

Sheet metal men like to work with rust-resistant ARMCO Ingot Iron because the job is sure to give lasting satisfaction to the property owner.

ARMCO
24

"That's your guarantee of a good job"

"If you want a sheet metal job done right, come around and see me. I'll save you money. I use ARMCO Ingot Iron—the purest iron made."

"A job done with ARMCO Ingot Iron is done to stay. This metal won't rust out like other metal does."

"And when you figure that sixty cents of every dollar you spend on any sheet metal job goes for labor, invest that labor cost on a good metal that will last rather than on a cheap metal that won't."

"Sure—I'm ready to tackle the job right away. That sign up there is your guarantee of a good job."

THE sheet metal shop in your neighborhood that displays this sign uses ARMCO Ingot Iron. And there is nothing that equals ARMCO Ingot

Iron, considering its low cost. It is the long-life metal because it is practically free from the impurities that cause iron to rust. This purity enables ARMCO Ingot Iron to take a protective coating of zinc that is purer than the galvanizing on steel. Thus the purity of ARMCO Ingot Iron, combined with the protective zinc coating, gives this metal double protection against rust.

If you need new roofing, gutters, leaders, flashing, ventilators, skylights, furnace pipes—anything that must withstand the ravages of rust—go to the Ingot Iron Shop in your neighborhood for the job.

You will be sure of good workmanship, the best material—and, of course, you will save money in the end.

THE AMERICAN ROLLING MILL CO., MIDDLETOWN, OHIO

(Export) The Armco International Corporation
Middletown, Ohio Cable Address—Armco

Distributors in all principal cities



ARMCO
INGOT IRON
The Purest Iron Made

"Is it made of ARMCO Ingot Iron?"
Every day more and more people are making sure of enduring sheet-metal work by asking this question.

This striking advertisement appeared in June 5 Saturday Evening Post, and June 26 Collier's. Note how the illustration and the text suggest how thousands of Ingot Iron Shops are getting more business—with bigger profits.

Reading such advertisements, your customers and prospects know that behind each Ingot Iron Shop is a quality product, ARMCO Ingot Iron,

together with the established prestige of a great industry.

You haven't an Ingot Iron Shop? Then write the Secretary of Ingot Iron Shops, Middletown, Ohio, today.

Ask for complete information about the plan that has proved its merit—the plan that is bringing more business with bigger profits to every one of more than six thousand sheet metal shops.

FALSE ECONOMY— An Ever-Present Danger



Despite policies opposed to it and precautions taken against it—the desire to deal shrewdly and cut corners often plays us into the hands of False Economy—an ever-present danger.



Compare Lamneck Products with others in appearance, in materials, gauge and workmanship. Put them together. See how snugly and sturdily they fit. Do this. Write for a sample. Get our catalog. Just fill in or pin to your letterhead and—

Mail This

Coupon Now!

A.A. 7-3

THE W. E.
LAMNECK CO.

Gentlemen:

Kindly send me at once, free and without obligation, the items indicated below:

() Your New Catalog.

() Sample of

Name.....

Address.....

YOU may not realize the mistake yourself. It may not show up until later—through customer complaints—perhaps just the quiet falling off of business—and then it may be too late.

Cheapening quality is all too dear—a costly error, sometimes never retrieved—for your reputation honestly won through years of hard, worrisome toil may be lost in a single transaction that fails to measure up.

* * * *

There is only one way. Know your source of supply—then adhere strictly to a quality standard. Lamneck Pipe and Fittings have behind them 25

years' experience in the warm air heating field. They are designed by skilled engineers, made by expert labor, and turned out on patented machinery especially designed for the purpose. Skill, experience and expert workmanship can make no better.

Furthermore, Lamneck products are sold at quantity production prices—prices as low as good products can be sold. To build better—and sell them at one penny less—is an economic impossibility.

Let us tell you of their time and money saving features. Have us show you how they cut stock investments in two. Write for samples or catalog.

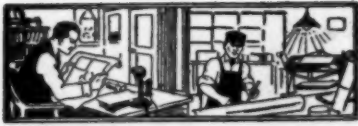
THE W. E. LAMNECK COMPANY

416-432 Dublin Ave., Columbus, Ohio

Western Representative: THE QUICK FURNACE & SUPPLY CO., Des Moines, Iowa

LAMNECK PIPE AND FITTINGS

Buy you save it in AMERICAN ARTISAN—Thank you!



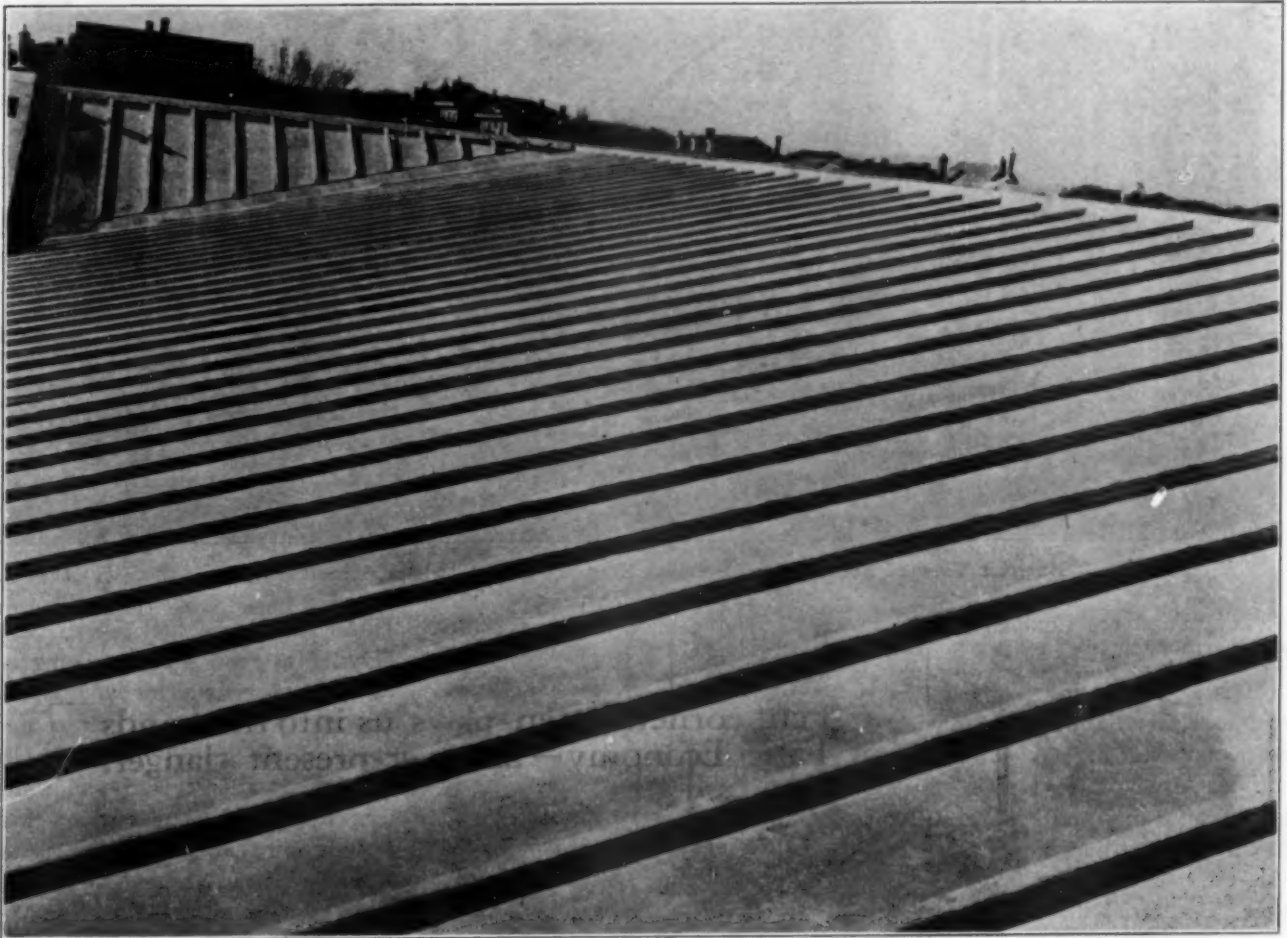
American Artisan and Hardware Record



Vol: 92.

CHICAGO, JULY 3, 1926.

No. 1.



Zinc Roof on Sorosis Club, Oklahoma City, Oklahoma, Erected by the B. & S. Passmore Company

Better Class Builders Now Employing Sheet Metal Roofing

*Building for Permanence Now
as They Never Did Before*

By L. S. BONBRAKE, Peoria, Illinois

THAT the trade is going to the sheet metal contractor who believes in service above everything else is more and more in evidence with each succeeding day. People with intelligence are building for permanence now as they never have before. They realize the economy and safety in so doing. They also

realize the place sheet metal has in that program of permanence which they have instituted in a comparatively short time.

As evidence of this fact, view the illustrations of the use of sheet metal on the better class building.

The first picture appearing with this article is the Sorosis Club of

Oklahoma City, Oklahoma, which is entirely covered with Horse Head zinc roofing. The second picture shows the roof covering the side and low pitched portion of the same roof, located between the front and back gables, which have a quarter pitch to the roof.

The work was completed by the



Exterior View of SoroSis Club Building Showing Zinc Downspouts and Gutters

B. & S. Passmore Company, Oklahoma City.

It is an interesting fact that the middle class of customers having more money than ever before, are the people who keep the wheels of business turning and cannot afford to invest in an uncertainty. When this class of customer finds an article of material that will bear the closest scrutiny and investigation; when they are certain of the actual value received when the purchase is made, they are willing and anxious to pay the price. The old notion that some dealers harbor is, in effect, that the cheaper they can name a price for laying a roof, the more certain the contract. This idea passed with rather fair success two decades ago, but is an erroneous idea at the present time.

Customers with money are out for the best, not the cheapest, and to a great extent are willing to pay for it when, shown the advantages the best materials can bring.

Such men as those who head the Passmore Company see the handwriting on the wall. They study the trend of the times and carefully survey with keen business acumen

the feeling of the public and its attitude toward a better class of work and better materials. That the Passmore Company has found the public pulse is readily seen in the large number of jobs they have already completed.

The third illustration is the zinc work on the Chi Psi Fraternity

House at Amherst College, Amherst, Massachusetts, consisting of eave-trough, conductor and heads, with the eave under the cornice and cove, which are all nicely shown. This illustration clearly indicates that the better builders are fast coming into line for sheet metal wherever it can be used.

Sheet Metal Contractor Must Consider His Approach in Writing Dun Letters

Intelligent Persistency and Determination Rather Than a Display of Fight Produce Results

EVERY sheet metal contractor and warm air furnace installer has some accounts on his books that he cannot collect. These delinquents are a constant source of irritation to him, because they affect his credit and limit his operations.

He has undoubtedly written the debtor time and again and finally turned the account over to a collection agency, who returned him only 50 or 35 per cent of the original bill.

The reason for your failure to get results is perhaps due to the fact

that you did not observe the proper approach in your letters. Your duns are perhaps too severe. They antagonize him and you lose him as a future customer.

A series of letters coached in mild language are presented herewith, which will give the contractor an idea of what is meant by "proper approach." They were taken from a booklet of the Policy Holders Service Bureau of the Metropolitan Life Insurance Company, entitled "Consider the Approach."

Note the dates on which each successive letter was mailed. Also note the strain of determination which runs through the entire series without getting warm under the collar.

"June 10, 1926.

"My dear Mr. Faxon:

"Every time you break a good resolution, something smashes. And you are the victim. With the crash of a good resolution you lose some of your self esteem, some of your confidence. You have failed to do something you set out to do. You have betrayed your weakness. You are not as strong as you thought you were, as you wanted to be.

"When you opened your account with us you undoubtedly resolved to pay your bills. But your resolution is going to smash. You are weakening. If you fail in this obligation you may fail in other things more important.

"The enclosed invoice is more than a request for prompt payment. It is a friendly hand extended to help you maintain confidence in yourself."

* * *

"June 21, 1926.

"My dear Mr. Faxon:

"'A stitch in time saves nine' means nothing to the naked man in a barrel. He craves clothing.

"It is so with the man in debt. All the good advice in the world will not pay the money he owes. He needs something more substantial.

"That is why we are writing to you about your unpaid balance of \$120.00. We just want to know if there is anything we can do to help you through an embarrassing situation. While we cannot afford to have our money outstanding, we are perfectly willing to listen to reason and do anything we can to help a friend out of a jam.

"After all, many a successful man can look back to the day when he was left with only a barrel to hide his skin.

"Write us a note and tell us how we can help you."

* * *

"July 2, 1926.

"My dear Mr. Faxon:

"The man who carries a chip on



Zinc Work on Chi Psi Fraternity House, Amherst

his shoulder usually has difficulty maintaining his balance. It isn't the weight of the chip that makes the difference, but the knowledge that it is there.

"Your chip is not the bill you owe us, but the knowledge that the debt remains unpaid. The longer you ignore our requests for payment, the heavier the chip will become, until some day you will stagger under a load that could be brushed aside today with one stroke of your pen.

"You received our goods. They must have been satisfactory for we have not heard from you to the contrary. Undoubtedly you intend to pay for them; but when? Don't wait until your chip becomes a burden, makes you ill humored and out of sorts with everybody.

"We shall thank you for your check by return mail.

"Sincerely yours."

* * *

"July 14, 1926.

"My dear Mr. Faxon:

"An old Indian proverb says: 'He who bears the burden on his shoulders knows its weight.'

"Perfectly true; but until he speaks up, the overburdened sufferer very likely will not receive the help he needs.

"That is the purpose of this letter—to ask you once more to speak up, give us an opportunity to lighten your burden.

"It is impossible to go on forever playing a one hand game. There is no thrill in making love to an image. We have written you five times and have sent you six statements of your indebtedness to us, yet you have ignored them all.

"Do you know that nine out of ten judgments are obtained because the debtor refuses to answer letters? Don't drive us to legal action. It is expensive for us as well as you.

"You must have a good reason for not paying your bill of \$120.00. Write today and tell us all about it. Use the back of this letter, if you like.

"Sincerely yours."

* * *

"July 26, 1926.

"My dear Mr. Faxon:

"Speaking of a man's credit reminds us of the old story of the beautiful swallow and the sturdy raven. These two birds were con-

testing for a prize. The judges had practically decided in favor of the swallow, when the raven saved his case by saying: "Your beauty is only for summer, while mine will stand many winters."

"Durability won the prize over show."

"It is so with credit. A man may make a temporary impression upon his trade and upon his associates in business; but if he has not the staying qualities of good credit, he will not win many prizes."

"When your account came to us we voted you a raven. Now we are wondering. Won't you settle the issue with your check for \$120.00, the amount of your bill?"

"Sincerely yours."

* * *

"August 5, 1926."

"My dear Mr. Faxon:

"When a good Injun goes on the warpath—look out! We have remained peaceable a long time. We saw our goods go into your hands and nothing come back. We have tried to keep cool, be patient, hoping that everything would be all right. But it has not worked out that way."

"Our business must have money, the same as yours. When you ordered from us we complied with your directions explicitly. If there is any complaint, we do not know it because you have not told us. We have nine times asked you to pay the overdue balance of \$120.00 and this is the tenth request."

"We are peaceable. We like to trade pleasantly, but your silence is making it difficult for us. Fifteen days from today your account goes to our attorney for collection. Won't you help us save this embarrassment by mailing your check for at least a part of your indebtedness today?"

"Sincerely yours."

* * *

"August 12, 1926."

"My dear Mr. Faxon:

"We have just experienced the fine glow of warmth that comes when you hear from an old friend after a long silence."

"Your letter of August 9, with your check for \$60, is the best news

we have had for a long time. They say no news is good news, but not for us. We like to hear from our customers."

"There remains a balance of \$60 outstanding against you. If you cannot pay it all at once, pay all you

can. Even if you have to split the amount into two more payments, we shall not complain."

"Remember, no news is bad news in our business. Please let us know exactly what we may expect."

"Sincerely yours."

How Supposed Luxuries Are Turned Into Necessities of Life

Luxuries of Today Can Be Made Into Necessities of Tomorrow

By HERMAN F. ARENDTZ, Ph. D., Associate Editor, United Business Service

WORDS are valuable in proportion as they possess fixed meanings; otherwise they are merely sounds. The most delusive and mind-tangling words are those which—like "luxury" and "necessity"—convey a quite definite, but different, idea to everyone that hears them. If nobody pretended to understand their meaning they would

and four or five children on \$200 per month. Both are defining the terms subjectively—each means by "luxury" the things she would like to have, but can seldom or never enjoy.

It is very hard to get one definition to which all can agree. However, by going back to first principles it can be done. On his physical side, man is an animal. There are certain requirements of animal necessity without which life is not merely disagreeable but physically impossible. Such are: (1) sufficient food of some sort, however coarse or cheap, to sustain the bodily heat and replace waste tissue; (2) sufficient clothing depending on the climate, to protect the body from colds, pneumonia and freezing; (3) space to sleep, eat and move about; (4) sufficient shelter to keep out rain, snow, and wind; (5) fuel and utensils enough to cook food, and (depending on the climate) to resist extreme cold.

This is the minimum of necessity—the standard of living of the poorer classes of China. Anything beyond it, either in quality or quantity, ranks as luxury.

When we go beyond this point in calling a thing a necessity, we enter the realm of mental or conventional necessities, those things that by habitual use or custom we have come to regard as necessary—not to physical existence, but to comfortable existence; things without which we should consider mere physical existence not worth while. Luxury,

In this article the author has pointed out how human nature is constituted. He has shown how the demand for any given product of industry can be created and increased. What he says about turning luxuries into necessities applies as much to sheet metal as to automobiles or radio sets. It takes a great deal of repeating the same thing to get people started demanding a certain commodity, but once they are started, the orders for that product or service form an irresistible avalanche.

be harmless. But each one of us thinks he knows what they mean and uses them with his own meaning attached, and the hearer interprets them in the light of his own definition. Hence the confusion and unintentional deception.

What do you mean by "luxury"; by "necessity"? The woman with an income of \$20,000 per year will give an utterly different answer than the woman who is financing a home

then, remains as those things which the individual concerned considers he can get along without.

There are many illustrations of this principle. Most Americans, even the poor, consider sanitary plumbing a necessity because it has been customary, and the health authorities of most cities require it. But it is not what we have defined as physical necessity. Clothing must be not only warm enough—the Indian's blanket is warm—but must conform to certain style standards, which vary with the time, place and occupation of the individual.

What we consider necessary depends in large measure upon what others about us have. We are unwilling to dress more shabbily than our associates. We are unwilling to appear in any way inferior to those with whom we associate, or among whom we live. We must either "keep up with the Joneses," or, if that be impossible, move out of the neighborhood. We feel we must have what they have, go where they go and do as they do. The aim of a salesman is frequently to create the impression that "everybody is buying them." If he can succeed in that, his battle is more than half won.

When automobiles first appeared, they were a luxury, but they have been advertised into the conventional necessity class. Not the paid advertising of auto manufacturers alone effected this. Every time a motor car passed along the streets it stimulated the desire of observers to own one. Finally, the neighbors on both sides of us got one, and we had to get one to protect our social standing, if for no other reason. Whether it is a \$35 used flivver, among the poor, or a Rolls-Royce, among the rich, most Americans, except in the most backward sections, feel that a car is a necessity.

If income decreases so that expenditure must be cut, we can get along on cheaper food (which we eat in the privacy of our home), or we can put up with less housing space, but to give up our car is to admit failure and loss of prestige.

Such articles as the electric iron,

washing machine, electric light and stylish looking clothes have become so entrenched in the mind as either customary or conventional necessities that we feel unable to face our neighbors if we give these things up. When economies must be made, we make them to the utmost limit where they do not show.

It would be hard to exaggerate the importance of this analysis to those interested in selling, and making a market for a new article. Take, for example, a laundry dryer. It is a sheet steel product providing perfect drying conditions regardless of the weather. This article is little regarded as, and nobody considers it, a necessity; yet, if advertised and talked up enough, a considerable number of people could be made to feel a need for it. If it proves useful and convenient, women will recommend it to each other. After a certain amount of momentum is attained, sales volume would roll up like a snowball until the time may come when a dryer will be considered as much of a domestic necessity as an electric iron or an electric washer.

We must have silk stockings and fur coats today because everybody is wearing them. When we once abandon the purely physical animal standard of necessity, as we have described it, the only practically useful standard of definition is to be found in that reason. For, of course, if everybody is getting them, so must we.

Radio sets constitute the most recent accession to the class of conventional necessities. Entertaining, pleasant and instructive, yet it was by no means considered a necessity two years ago. Today, perhaps, the majority of people in the most prosperous sections of the country would feel lost without their radio sets. This is becoming even more true on the farms than in the cities. There are expensive sets and inexpensive sets, but without some set, we are shut off from and deprived of the common experience of those with whom we associate. We must have a radio set.

The problem, where sales volume

is desired, is the problem of popularization. The appeals to convenience, vanity, social pride and pleasurable sensations in all their various forms are the various roads through which an article, a style, or a habit may be driven into the hands, minds and hearts of the people until it becomes established in use and is looked upon as necessary—not, indeed, to mere physical existence, but to a worth while existence.

Certain luxuries of today can and will be "sold" into necessities of tomorrow the same as others have in times past. The industries that have the vision to see the possibilities of this change of public attitude and the courage and persistence to keep eternally driving at the same point will profit richly when the change occurs. — Reprinted from *Making Markets*.

How to Avoid Carbon Monoxide Poisoning

Every day or so announcement is made of a death caused by carbon monoxide poisoning from running an automobile engine in a closed garage. Read this carefully and pass it on to your employees:

Please take warning that it is dangerous to run an automobile engine in a closed or partly closed garage.

Carbon monoxide is a deadly, though colorless and odorless gas exhausted by gasoline and internal combustion engines. Therefore, the air in a closed garage or room may seem perfectly pure and yet may contain enough carbon monoxide to prove deadly.

The gas is formed by burning almost any kind of fuel without enough oxygen. A small percentage in the air will cause headache, then unconsciousness, then death. The blood has a great affinity for carbon monoxide, and absorbs it from the lungs instead of the oxygen which is needed to sustain life.

An automobile engine running in an ordinary small garage with doors and windows closed, will produce enough carbon monoxide in a few minutes to cause death, and if a per-

son is alone in such a garage, he is generally overcome without warning.

The only safeguard is never to run a gasoline engine unless the garage door and windows are open. If your engine is running and you feel a headache or faintness, even if

you think the ventilation is all right, go at once into the open air.

First Aid.

If you find anyone unconscious in a garage, drag him at once to the open air if possible. If you cannot do this, open the doors and windows wide, and send for a physician. If

the victim has stopped breathing, start artificial respiration by the prone pressure method. Send someone to call the police, gas company, or electric light company, as they usually have equipment for resuscitation including oxygen or carbon dioxide-oxygen inhalents.

Showing How to Develop Pattern for Scale Scoop

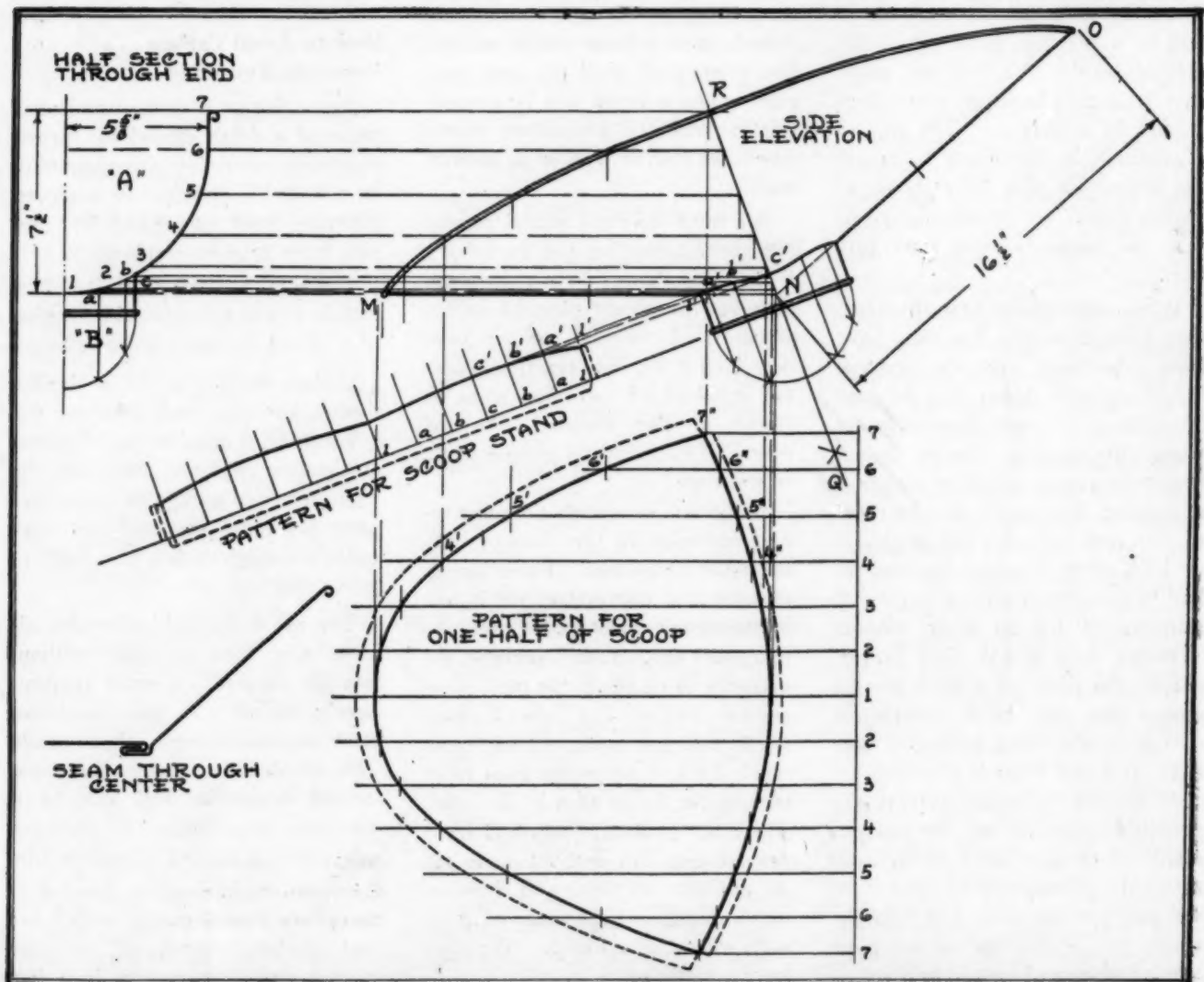
Inquiry for Pattern Made by John F. Aingworth, Cleveland, Ohio

By O. W. KOTHE, Principal St. Louis Technical Institute, St. Louis

RESPONDING to the inquiry of John F. Aingworth, Cleveland, Ohio, who desires pattern for a scale scoop according to sketch enclosed, I want to say that the solu-

tion presented herewith will set him right. The only difference is in the measurements where our half width of section "A" is made $5\frac{5}{8}$ inches where the correspondent gives a di-

mension of $11\frac{1}{4}$ inches. It seems to me that this $11\frac{1}{4}$ inches would be rather wide for the radius of the scoop. It would make the scoop $22\frac{1}{2}$ inches wide and it would throw



Pattern for Scale Scoop.

it out of proportion considerably. If I am wrong in my deduction and the radius is $11\frac{1}{4}$ inches, you simply have to fill it in as we show our $5\frac{5}{8}$ inches and sketch the curve in the section. This will not be a quarter round, but will be more of an oval, and any uniform curve you sketch in will be satisfactory.

When this half section is drawn then divide the curved lines in any number of equal parts, as from 1 to 6 in this case, and part 6-7 is straight or the entire section can be divided up if the straight portion is not longer than one space.

After this draw the side elevation, as M-N-O to the angle you showed. Also measure the lengths of $16\frac{1}{2}$ inches and then bisect for the miter in the center as R-Q. By bringing point 7 from section "A" over we establish point R and this enables us to sketch the curve for top M-R-O. Owing to the length to which a dividers must be spanned because of the solidness of a scoop of this size, we have sketched the top in free handed. A curve once sketched satisfactorily to the eye it becomes of a fixed line and the rest of the work is developed to it. Now from each point in section "A" carry over horizontal lines to cross the top line M-R and also the miter line R-N.

The pattern for this scoop can then be developed for drawing a line below as 7-7 and pick the girth from section "A" setting it off in numerical order as shown, draw stretchout lines and from each point in the miter R-N drop lines. In the same way drop lines from all points in top line M-R and where these lines intersect stretchout lines of similar number as in points 7"-6"-5"-4", etc., also 6'-5'-4', etc., trace a free hand curve and you have the outline for pattern of scoop. Edges for wiring and seaming can be allowed extra.

To lay out the pattern for the stand we place the width in side elevation as M and take half of this into and elevation as section "B". Divide this section in any number of equal parts and square up lines to section "A" as in points 1-a-b-c. These points carry over horizontally

into side elevation and cross them from the full half section N as in points 1'-a'-b'-c'. This enables sketching the miter line between stand and scoop as shown. To develop the pattern draw any line at right angles to stand N and on it measure off the girth as 1-1, etc., from section "B." Erect lines and then from each point in miter line 1'-a'-b'-c' bring over lines parallel until they intersect stretchout lines

of similar number as in points 1'-a'-b'-c', etc. Sketch a uniform curve through these lines and you have pattern for the stand. The length of stand can be made to suit conditions, although it is not well to make it too long or too short, but mainly so the bottom of the stand covers well the corner N of scoop. The middle seam of scoop can be double seamed much as we show in the sectional view of center seam.

Dallas, Texas, Already Preparing for 1927 National Sheet Metal Convention

***Committees Appointed and Work Is Now
Organized, Insuring Hearty Welcome***

THE Texas sheet metal contractors, particularly the Dallas organization, have already fired the opening guns in their drive to get sheet metal contractors from all sections of the country to attend the 1927 convention of the National Association of Sheet Metal Contractors.

A perusal of the statement appearing hereinafter and issued from the office of the Texas Sheet Metal Contractors' Association will convince the most doubting of the Thomases of the sincerity with which the Texans are preparing to entertain all who attend the convention at Dallas next year.

In the first place, Harry Stanyer, President of the Dallas Association and Secretary of the Texas state association, was unanimously elected General Chairman of the 1927 national convention.

Secondly, Dallas has already started preparing the warm welcome that is to be given the sheet metal contractors of the country. When Texas does anything, it does the thing big and the national convention of the Sheet Metal Contractors Association of 1927 is to be no exception.

The wheels of preparation are already in motion. Last Thursday night a meeting was held in Dallas at which the work of preparation

was definitely organized. The various committees were appointed. Dallas is not alone in this work, as the sheet metal contractors from the nearby Texas cities are giving the Dallas contractors their loyal support, as is also the state body.

"There is one sure thing," says the statement, "when you come to Texas you'll have plenty of room to stretch out, you'll get plenty to eat and best of all you'll have ideal weather. We've already ordered old sol to do his best and since we've placed our order so early we feel sure of being taken care of."

"Now what we want you to do is to help us get the crowd here!" comes a summons to AMERICAN ARTISAN. "The trade press can help us a lot and that is the chief kind of help we are going to need. We want a crowd; we want an immense crowd; in fact, we want and are going to have the biggest crowd here that has ever attended a sheet metal gathering." The summons ends with this appeal: "Meet us in Dallas in 1927! Get in on the Best convention ever held!"

Decatur Cornice Company Employees Acquire Life Insurance Protection

Employees of the Decatur Cornice and Roofing Company, Inc., of Albany, Alabama, have joined with the

executives of that company in acquiring life insurance protection through a group policy issued by the Prudential Insurance Company of America.

The policy, which is on the contributory plan, provides that the workers themselves pay a part of the premiums and the employing company the remainder of the cost. Each worker is covered for from \$2,000 to \$5,000, according to the position held.

Increasing Wages Scientifically Only Sound Way to Adopt.

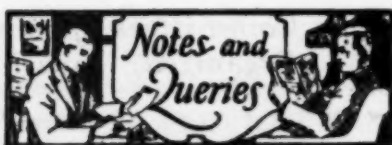
Back in 1899 the average earnings of the American worker amounted to \$426 a year. In 1923 the figure had increased to \$1,254 a year, or nearly three times as much. In the same period of time the so-called cost of living, based on necessities, rose to about twice its former height. The worker today, therefore, is about fifty per cent better off, in "real" wages, than the worker of a quarter century ago. Organized labor has tried to claim credit for this, but the real reason for the gain is well known to be the increased production made possible by more mechanical power per worker.

It should be plain to all from this living example, if not from ordinary logic, that increasing production is the only possible means for bettering the position of the wage earner; but that obvious truth still is evidently misunderstood by many workers—perhaps a majority. That is demonstrated by the increasing talk about five-day weeks and six-hour days.

The desire for leisure is human, natural and reasonable enough; it is pleasant to all to have plenty of time to do with as they please. But the simplest of arithmetic shows that a horizontal reduction of production time must necessarily carry with it an equivalent increase of production cost. If the wage figure per year remained the same, the increased cost of all commodities would bring the "real" wage figure

down in exact proportion to the decrease in work time.

With the progressive adoption of labor-saving improvements, a day undoubtedly will come when all the needs of the human race will be produced in less working time than now is required. America is nearer to that state than any other country on earth, but we have not yet reached it. The only possible way to hasten its approach is to combine improvements with hard work. That will bring down the cost of commodities, thus further increasing the "real" wage of the worker—the only kind of a wage increase that means anything at all.



"Standard" School Heater.

From C. R. Kealer, 3314 West Washington Boulevard, Chicago, Illinois.

Can you tell me who makes the "Standard" school heater?

Ans.—Standard School Heater Company, 453 North Racine Avenue, Chicago.

Automobile Body Patterns.

From C. W. Walkup, Dawson, Texas.

Please advise me where I can secure patterns and blueprints for automobile bodies.

Ans.—St. Louis Technical Institute, 4543 Clayton Avenue, St. Louis, Missouri.

Devices to Measure Humidity in Air.

From Montag Stove Works, Kenton Station, Portland, Oregon.

Kindly inform us who makes one of the latest devices for measuring the percentage of humidity in the air.

Ans.—Taylor Instrument Company, 29 East Madison Street, and E. Vernon Hill Company, 64 West Randolph Street; both of Chicago, Illinois.

Lacquer That Makes Tin Look Like Brass.

From Milton L. Kistler, Alexander City, Alabama.

Can you give me the formula for a lacquer that can be used on tin to make it look like brass?

Ans.—Any good lacquer laid upon tin gives it the appearance of copper or brass. It is made by coloring lac-varnish with turmeric to

impart the color of brass to it, and with annatto, to give it the color of copper. If a tin plate is dipped into molten brass, the latter metal will adhere to it in a coat.

Kettle Ears.

From Smith Plumbing and Heating Company, Anamosa, Iowa.

Kindly inform us who makes kettle ears.

Ans.—Berger Brothers Company, 237 Arch Street, Philadelphia, Pennsylvania.

"Buckeye" Aluminum.

From the Amana Society Tin Shop, Homestead, Iowa.

Please tell us who makes "Buckeye" aluminum.

Ans.—Buckeye Aluminum Company, Wooster, Ohio.

Steel Chute Fire Escapes.

From Boyle Metal Works, 54 South Broadway, Blackfoot, Idaho.

Can you tell us who makes steel chute fire escapes?

Ans.—F. P. Smith Wire and Iron Works, Fullerton and Clybourn Avenues, Chicago.

Milk Testers.

From Smith Plumbing and Heating Company, Anamosa, Iowa.

We should like to know who makes milk testers.

Ans.—Majonnier Brothers Company, 4601 West Ohio Street, Chicago; Rock Island Manufacturing Company, Rock Island, Illinois, and Imperial Electrical Company, Union City, Indiana.

"Honeywell" Thermostat.

From The Youngstown Furnace Company, 630 Marshall Street, Youngstown, Ohio.

Will you kindly advise us who makes the "Honeywell" thermostat.

Ans.—Honeywell Heating Specialties Company, Wabash, Indiana.

Retail Hardware Doings

Illinois

The C. W. Woeszski Hardware Store, 111 W. Front Street, Bloomington, is closing out his business.

Mose Young has traded his hardware store at Plymouth for a farm.

Indiana

Joseph Schroeder and L. Oswald are now the sole owners of the Schwieler and Hillenbrand Hardware Company at Batesville.

Michigan

The Norton's Hardware Company has moved to its new store at 305 South Washington Avenue, Lansing.

Minnesota

Jake Larsen and Rolland S. Geel have opened a hardware business at Russell.

The Editor's Page

Appealing to Reason in Collecting Debts

IN MAKING difficult collections, consider the angle of approach.

The sheet metal contractor and warm air furnace installer are not immune from the plague of bad collections. They, too, have their share of experiences where folks whom they have faithfully served refuse to pay the bill when the work is done. Like the proverbial poor relations, these bill dodgers, intentional or otherwise, are to be found in every phase of industry. But experience is worth something.

Business men who have had long practice in experimenting with human nature are pretty well convinced that nothing is to be accomplished by immediately calling on the aid of the law in making the "slow pays fork up." This practice only loses customers and destroys good will which the contractor has been at great pains and expense to build up. They have worked out other methods that produce the desired result at far less cost than going to court.

In attempting to collect delinquent accounts the contractor must consider the angle of approach very carefully. The main object is, of course, to settle the account; but, since the customer has not only refused to pay the bill, but has also refused to state his reason for ignoring your letters, the problem requires tact and diplomacy of a high degree.

The main idea here is to keep cool. The constant dropping of the water wears away the hardest stone, and since you cannot hope to gain anything by threatening the customer with court procedure, the better policy to adopt is the one of constantly appealing to the customer's reason. It is better to shame than threaten. Attack the problem with determination and show the customer that you mean business, but with it all be a gentleman of the first order.

On another page in this issue there is reproduced a series of collection letters that were used by a certain merchant in collecting an account which he had about decided to write off his books as a loss. The campaign extended over a period of several months. During that time some eight or nine letters were mailed to the delinquent, who ignored each and every one of them. The final letter, however, produced the result desired. The point is that the good will of the customer was retained.

Had the same bill been handed to a lawyer or collection agency for collection, the firm would have had to accept at least a 50 per cent reduction in the amount which was turned over to them. Study these letters carefully and see how tactfully the matter was handled by the credit department.

Making collections is a ticklish and often exasperating business. But if the collector appeals to the better nature of the delinquent rather than attempting to

threaten him, a much more satisfying result will be produced.

To make your appeal to the customer's reason if persistently pursued is bound to produce results. But it has the advantage of keeping the good will of the delinquent, while making him recognize his just debts. The court procedure leaves the sour taste and should be used only as a last resort. Advertising costs too much to let a customer get away if it can be avoided in any way at all.

Credit to Those Who Deserve It

IN every phase of human activity there are to be found men and women who give generously of their valuable time and executive ability—more often gratuitously than not—to the betterment of human relationships and social as well as economic progress. Reference is made in this particular instance to the splendid work that is being accomplished for industry by the National Better Business Bureau of the Associated Advertising Clubs of the World. The men who comprise this organization are doing a fine work. They should be encouraged in every way possible.

Every member of the industrial arts fraternity knows that success in business in the final analysis depends upon the buying power of the public. Regardless of what industry produces for the service of humanity, unless the prospective customers have in their control the buying power with which to avail themselves of the new service, that service is not going to be in demand. Every logical mind will subscribe to that philosophy. It cannot do otherwise.

It requires an understanding of only the most elementary phases of economics to realize that the public's buying power is not limitless. Therefore, buying power decreased in financing blue sky promotions works a hardship on the legitimate members of industry, because it appropriates money that would otherwise find its way into bona fide business channels and be put to a good use.

From this it is readily seen that industry at large is benefited by the weeding out of questionable business practices indulged in by industrial parasites. It is to accomplish this weeding process that the National Better Business Bureau was formed; and the individuals who are responsible for the efficient conduct of the work are fully cognizant of their responsibility to society and are discharging that responsibility in a most effective manner.

To eliminate fraud from business is a stupendous task. It is a job that requires the utmost resolution and patience, and the people who have undertaken that job are to be given every support possible—both moral and financial—whenever they may ask for it.

Random Notes and Sketches

By Sidney Arnold

"The essence of humor is sensibility; warm, tender fellow-feeling with all forms of existence."—Carlyle.

I had a most delightful visit with Mr. Fred Goodall, senior member of the G. & S. Stove & Furnace Company, Chicago, one day this week. Mr. Goodall was attending to the store, where a complete and well arranged line of stoves, furnaces, and refrigerators is to be seen on display. Mr. Stahler, the junior member having gone off to a business men's picnic for the day.

Mr. Goodall is thoroughly versed in the subject of warm air heating. He enjoys nothing so much as to sit down and explain the intricacies of a complicated warm air heating installation which the company has either installed or corrected. While doing this he simply radiates enthusiasm.

* * *

The service which many travelers get from railroads and hotels would be decidedly amusing if it did not often involve them in almost inextricable difficulties.

Frank Ederle stayed one night at a small town, one of those places where trains don't really stop but merely hesitate. Its lone hotel, opposite the railway station, was kept by an aged darky, who was proprietor, clerk, cook, waiter, bellhop and everything.

"Call me for the 3:15 train," ordered Frank, retiring early to sleep soundly, until awakened by a loud hammering on his door.

"Hey, boss," came a voice outside, "didn't you-all left a call foh de 3:15 train?"

"Sure," gasped Frank sleepily.

"Well, suh," was the response, "she's at de stashun now."

* * *

A "pulling" advertisement is always to be desired. But the following story shows how an advertisement may unintentionally push one into undesirable publicity:

Bill Laffin, Chicago branch manager of Tuttle & Bailey, as you know, recently became the father of a bouncing boy. He was so proud

of his offspring that he was prepared to spend a considerable amount in buying a carriage in which to wheel the baby; so he told his wife to meet him at the office in the afternoon and they would make the purchase together. After the vehicle had been purchased he placed the baby therein and proudly pushed the carriage down the street. He noticed that people who approached him were smiling, but thought that it was on account of the youngster. Finally some friends who met the couple made such a demonstration that he said to his wife, "You push and I will go ahead and find out what's the matter." He did so, and looking at the carriage, nearly fell in a fit. On the carriage was a placard which the salesman had forgotten to remove, which read, "Our Own Make."

* * *

Allen W. Williams, as everyone knows, is secretary of the National Warm Air Heating and Ventilating Association. He is also the editor of the Association Bulletin. As editor he is compelled to do many things that he would not do were he not a member of that group (not secretaries) of society that are foredoomed to disappointment when they seek entrance at the pearly gates.

I learned from a close friend of Allan's that Allan had a dream not so long ago. The dream was retailed somewhat as follows:

St. Peter had had a busy day and Gabriel had not loafed any himself.

Throngs had visited the gate and been looked over.

Those who answered their questionnaires successfully and satisfactorily were admitted. For others it was, "Going down!"

Finally, when the books were about to be closed for the day, a soul that had belonged to a certain well known editor when on earth came puffing along.

"What'll we do with him—the

books are practically closed for the day?" said Peter to Gabriel.

Before Gabriel had time to answer the shade of the journalist timidly spoke up:

"You might label me 'Too late to Classify,' and let me in any way. I can't go to the other place—I forgot my fire badge."

* * *

While down at the Louisville convention the last week in May, I heard that Mrs. H. O. McElwain was expecting to take up golf, so that she would have something to do while her husband is out of town selling Lennox furnaces. The very next time I saw H. O. I asked him if it were true that his wife was expecting to take up golf and here's the reply I got: "Well, she intended to, but the tailor was two weeks late with her knickers, so that she had to have the style of those changed. Then to make matters worse, I couldn't get delivery on a sports roadster for her in time to have the whole outfit match, so now unless I can coördinate all of the factors without further delay, I'm afraid she's going to get discouraged and give the whole matter up." Cheer up, H. O., I told you not to encourage her along those lines.

* * *

Are You Resigned?

To be resigned—self-satisfied, contented—will result in cold comfort some hot day—

No successful man is satisfied—he may be gratified, but never satisfied—

The most powerful narcotic is self-satisfaction—

The moment a man settles down and is satisfied with the amount of business he is doing, he drinks the hemlock—

The urge to surpass yesterday and be a bigger, better man today, is always present in the man who is forging ahead—

Satisfaction is Stagnation—

Your "winter of discontent" will be twelve months long if you fail to keep up the fire of increased purpose—

This old world has millions of men stuck in the mud of satisfaction.

Possibilities in Warm Air Furnace Fan Attachment Unlimited

Summer Cooling Soon to Be Possible with Refrigerator Attachments

By R. W. MENK, Heating Systems and Supply Company

IT isn't very long ago that a lot of people said we were crazy about this furnace booster idea. In fact, we have had some very interesting letters on the subject, some for and some against, and others with big question marks attached to them. But every day brings evidence that a whole lot of others are beginning to get just as crazy as we are.

It seems to be the old, old story that everything worth while must be born in people who are considered crazy. For years men have known of the advantages of the movement of air by fans and blowers. The large factories for the production of fans is sufficient evidence. The fan or blower in connection with furnaces is no new idea, therefore, the only criticism I have is with the manufacturers of fans and blowers. They, with their large plants and high-class engineering departments, seem in a measure to blame for the failure of a more generous use of fans and blowers in connection with furnaces.

Of course, I know that there has been resistance from the furnace people, and I also know that some fan people have tried to market some products in the past. These, however, are no reasons why continued efforts should not be made, when it is so generally conceded that fans and blowers have advantages.

Every heating system relies upon air circulation to perform its proper function, and the capacity of the system depends upon the number of heat units that the heater can produce and the plant's ability to deliver them in the most economical and satisfactory manner, to the spaces to be heated. But the air movement is the principal factor as to what the results will be, and as a consequence is of most vital importance.

There are two fundamental principles involved, one is a matter of volume and the other a matter of heat pick-up. It depends entirely upon what the system is to be used for. I believe every one will agree that the principles contained in the Standard Code are as near correct as experience and calculations can determine.

In this article the author, Mr. Menk, has set forth his ideas on the possibilities for future development of the fan in connection with the warm air furnace. He shows how the fan augments the gravity system and increases the serviceability of the warm air heating system, making it the ideal heating unit for the larger buildings such as churches, schools and large halls. He also touches upon the possibilities of making the system a cooling unit during the summer months. What are your views on the subject of fans? Let us have them!

Then the question is raised, what more do you want? "Do we need more air volume?" some say. "Of course not, for the system installed by the Standard Code gives volume enough," others say. "More air volume will create drafts and air currents that are objectionable," another says. "More air volume means added cost to move the air." "More air volume will tend to reduce air temperature, but will equalize the room temperature." And so it goes in the matter of volume. Then another says, "for goodness sake what can a fan do for a furnace?" A fan or blower can help produce the best results that a warm air furnace can

give, and are those ideal results that every warm air furnace is supposed to give. During recent months some definite conclusions have been reached, some outstanding principles have been worked out to the conclusion that it's only a question of what is required.

Blowing or forcing air through a standard portable furnace casing, whether the air is delivered to the casing direct or by way of the cold air ducts can produce only results as indicated above, more volume, lower register temperature, more uniform temperature between floor and ceiling, more drafts, etc., if the fan has more capacity than the natural gravity capacity. As an illustration: A dealer in a Central Illinois city ordered a fan which he installed in the cold air duct of a furnace job. The job had a gravity capacity of approximately 1600 cubic feet per minute. The fan he ordered was a 12-inch propeller type, revolving at 1725 revolutions per minute and rated to deliver 900 cubic feet per minute, "delivered in free air." The result was that there was practically no more effect than when the furnace operated under gravity. If the furnace was red hot a much more noticeable effect was secured, but under normal operation the results were unsatisfactory. What were the reasons? First, the air delivery was insufficient; secondly, the air blew past the castings without much additional heat pick-up (unless the furnace was very hot), and thirdly, the fan did not deliver enough extra air, although the turbulence created by the fan made some effect.

The result from this is typical of many fan installations. Therefore, if one wants *volume* and *additional heat pick-up* it is necessary that the furnace and system be analyzed, and a fan supplied that will deliver the

air and volume against whatever static pressure exists.

This system, however, does not meet up with what the writer has concluded is the proper application for the average furnace job, unless air volume is the principal feature, then to supply additional air for ventilation purposes in such jobs as schools, churches, theatres, etc., is necessary.

The capacity of a warm air furnace is more than double its gravity capacity. That's one of the reasons furnaces get (red or white) hot and burn up. In analyzing the situation there was only one conclusion, that if the best results that a warm air furnace can give are those ideal results that it is supposed to give, then it is not a question on the average job of more air, but more heat pick-up.

This is a statement intended to awaken furnace men to the principal functions of the fan.

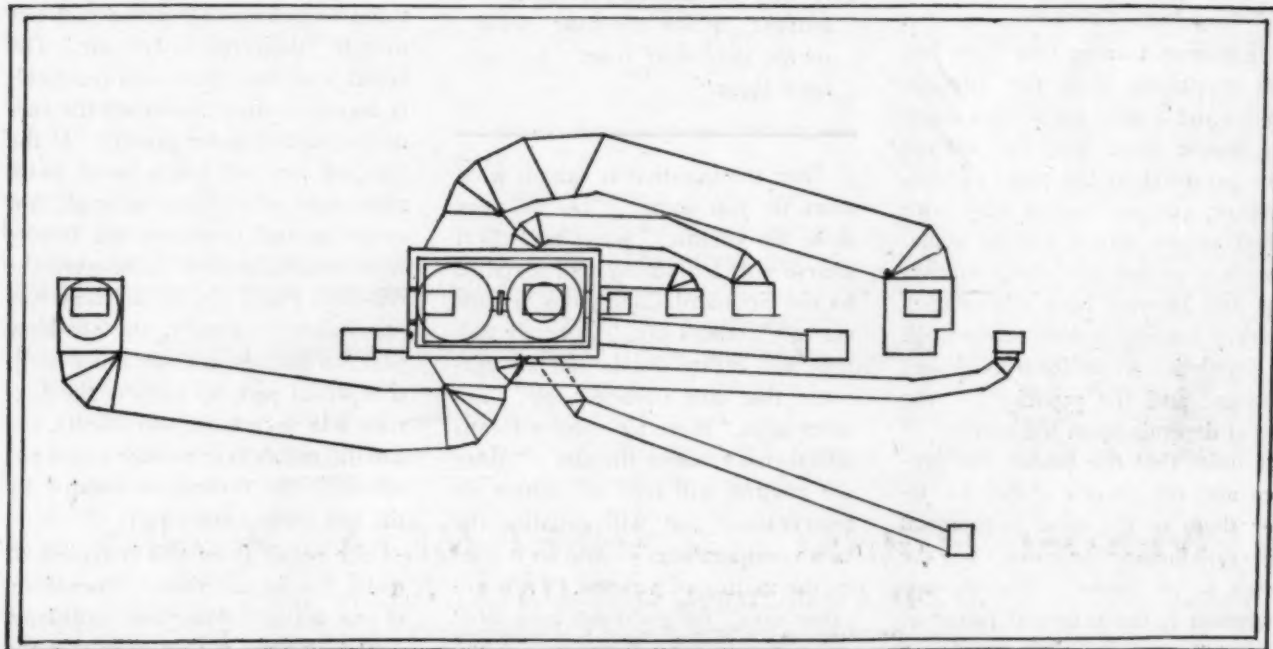
If someone can produce a device that will deliver those results he should bring it out; for goodness knows there is room for a dozen manufacturers in that line. What the fan for the average job should do is to discharge the air directly against the heated castings, uniformly around the entire heated surfaces,

and by so doing the film of heat that lies on these surfaces will be rubbed off and forced through the system without the furnace having to become red hot, or if a good fire exists in the furnace, it not even being necessary to open the drafts or to disturb the fire. If the air has the proper temperature, if sufficient motive head exists to deliver this heated air to the register, and with sufficient velocity to thoroughly circulate the air and to offset wind pressure; then any air deliveries beyond that point are an expense, that should only be incurred when additional air is necessary for health purposes.

The fan is necessary to overcome the resistance through the plant, for the slight difference in weight between the warm and cold air necessitates the overheating of the furnace whenever the weather conditions are severe. The fan is necessary to produce that quick pick-up in the morning after the house has been allowed to cool during the night. The fan is necessary to drive the heat to the extreme corners of the building without having to create severe heat. The fan will save fuel, it will deliver the heat to every nook and corner for much less money than by the process of overheating the furnace. The fan is

necessary to overcome the unbalanced conditions that exist, to some extent, in even the very best installations, and last, the fan is an asset as a means of cooling in the summertime. Temperatures were reduced as much as ten degrees on installations made last summer, and now manufacturers of domestic refrigerating systems are working with us to see what results can be produced. If such can be effected at reasonable costs, then the possibilities of the warm air furnace as a year-round apparatus will make such a plant the ideal machine for air conditioning the home.

There are dozens of first-class dealers who have already seen the advantages of the fan system. In a letter the other day one of them said he was so sold on it that he could hardly talk furnace without bringing up the fan; another said he hoped to sell a fan with every warm air furnace. All that I can add is that so far as we have been able to see, there is nothing to stop the progress towards a new era, and my advice to furnace manufacturers and installers is: "Get busy, find some fan that will fit in with your products and push it. It's not only a sales advantage but produces better results."



Illustrating a Proposed Gravity Warm Air Furnace Installation that Is to Replace a Battery of Two Furnaces that Have Burned Out. If Installed as Proposed, Will It Be a Repetition of the One Just Taken Out.

Furnace Installer Concentrates on Influential Builders

Believes in Acquainting Bankers and Real Estate Men with Standard Code

EVERY warm air furnace installer and sheet metal contractor has his own peculiar way of seeking out his business prospects. Of course, the matter resolves itself into one of selecting advertising mediums, and the accuracy with which this is done determines to a large extent the rapidity and extent of growth of the business.

The local newspaper is commonly supposed to be the most effective advertising medium for the local merchant to use. The Wendel Furnace & Sheet Metal Works, Hinsdale, Illinois, have gone a step further than reaching the public by the local newspaper. They have concentrated their efforts; they have brought warm air heating and the Standard Furnace Code to the attention of real estate men, bankers and real estate brokers through the medium of the *Real Estate News*, a publication issued in Chicago, circulating among the men comprising the three groups named heretofore.

The type of advertisement used by this progressive firm in the medium named is shown in the accompanying reproduction.

The Wendel Furnace & Sheet Metal Works was started fourteen years ago in a small shed on Lincoln Street, Hinsdale. Under the efficient guidance of the founder, E.

W. Wendel, who, with his son still operates the business, the business outgrew its original quarters and two successively larger homes during the first five years of its existence. It moved into the present home at 246 First Street about nine years ago and has continued to prosper, with a steady, even growth since that time.

At the present time the firm is so well established and its reputation for high-class work is so well known that it does the bulk of the better class of sheet metal construction work of the city.

This firm also has the distinction of having installed the first dust and gas-proof Farquhar warm air furnace in Hinsdale.

Among those who played a very important part in the establishment and growth of the Wendel Furnace & Sheet Metal Works, in addition to the proprietors, was "Daisy," better known to the townspeople of Hinsdale as "Wendel's Gray." Daisy was a town character. On week days during her life in the building industry she hauled warm air furnaces, sheet metal roofing materials, gutters, downspouts and eave-troughs to more than half the homes in Hinsdale. But to be turned out to the green pastures on Sundays and holidays she had no

longing. She was as near human as any horse could be and to be allowed to double as the equine clown of the parade gave her as much of a thrill as it did the children who watched her perform.

Of course, two big trucks have supplanted Daisy in the Wendel establishment, but legend has it that only three years ago in the role of "Spark Plug" she won the silver loving cup in the Fourth of July celebration.

Standard Code Receiving Ever Wider Circulation in Heating Industry

Members of the Western Warm Air Furnace and Supply Association who attended the mid-year meeting held May 21 and 22 at Chicago will recall the address made by Mr. B. K. Eaton, general sales manager of the Winslow Boiler and Engineering Company, Chicago, relative to whether or not oil burning equipment is a success in the warm air furnace. Mr. Eaton at that time, among other important revelations, said some very pertinent things regarding the necessity of providing a good draft in the furnace and also regarding the absolute need for a gas-tight furnace.

At the close of his address Mr. Eaton complimented the association on its progressiveness in getting out the Standard Furnace Code governing the installation of warm air furnaces. He thought the idea an excellent one and agreed to do all in his power to advance the interests

REAL ESTATE NEWS



"When you Think of FURNACE just remember WENDEL"

The most healthful and economical heat for the modern home: _____ A well installed furnace _____ according to the Standard Code of Heating Engineers.

WENDEL FURNACE & SHEET METAL WORKS

246 First Street, HINSDALE, ILL.

PHONES RESIDENCE 462 Y 2 OFFICE 1017

of the industry along the lines outlined in the Code.

Backing up his words with action, Mr. Eaton has already received 600 copies of the Standard Furnace Code and is now in the act of preparing a special bulletin calling attention to the importance which the associations attach to the Code and its precepts. These copies of the

Code, accompanied by the bulletin, will be sent out to all Kleen-Heet dealers.

Thus it is seen that the Code receives ever wider circulation and publicity. Soon it will have permeated to every section of the country and will serve as a guiding light to installers of warm air furnaces wherever they are put in.

E. Vernon Hill Emphasizes Importance of Knowing Draft Requirements

Manufacturers Must Cooperate With Installer in Learning Draft Requirements of Furnace

AN INTENSELY interesting article on "Fundamentals for the Furnace Man," by E. Vernon Hill, appears in the May issue of *The Aerologist*. It is so full of "meat" that it is republished herewith, together with the illustrations which accompanied it.

Fundamentals for the Furnace Man

The furnace man has an insufficient amount of usable information respecting the draft requirements for the heaters he installs and the height and area of the chimneys

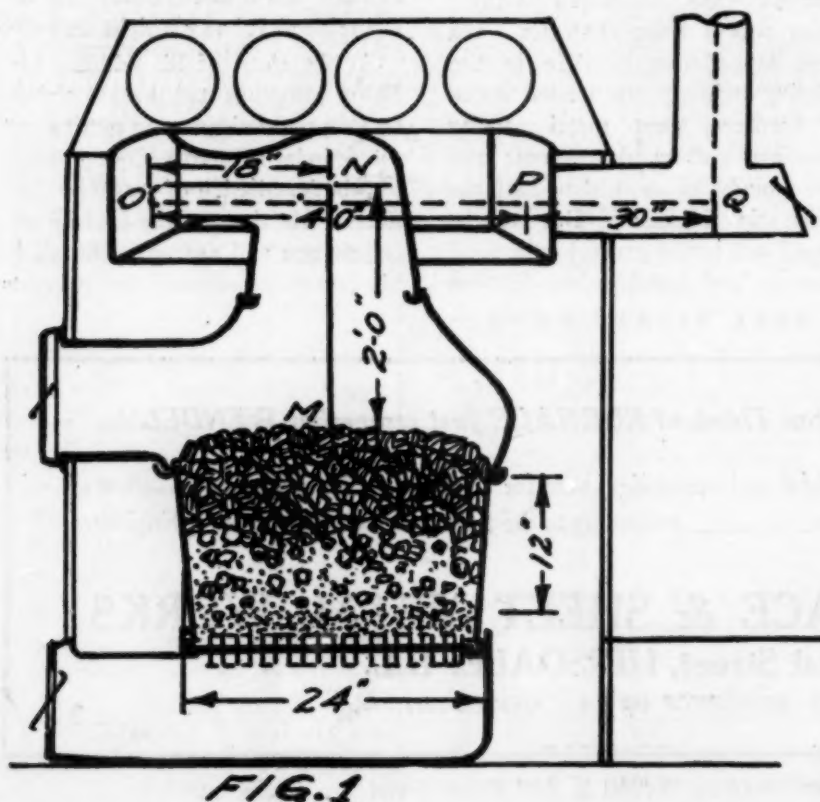
necessary to give the best results. I make this statement because of the large number of inquiries received asking for information on these points. Of course, the manufacturer should know the draft requirements at the different rates of combustion for the different sizes and types of his furnaces and he should supply this information to the contractors who are installing the same. Some doubtless do this. Many do not.

To obtain the proper draft for a

given furnace and to carry off the gases of combustion, a certain height and area of stack are required and the furnace man usually has some information regarding the minimum height and area of stacks suitable for his heater. But in trouble jobs where the furnace is installed and does not work to the satisfaction of the owner, the rule and thumb requirements are insufficient and the contractor is placed at a decided disadvantage. He may be satisfied in his own mind that the entire trouble is, due to insufficient draft, but it is another matter to convince the owner and to furnish the kind of proof that will induce him to extend repair or even rebuild his stack.

The furnace man is frequently advised to purchase a draft gauge, if he does not already have one of these useful instruments, and to use it frequently. This is sound advice and unquestionably a desirable procedure if the user has sufficient information to intelligently interpret the results. But there is very little satisfaction in setting up a draft gauge on a trouble job and finding that the available draft at the smoke pipe inlet is .08 of an inch, if the contractor cannot also tell the owner definitely what the draft *should be* for the furnace he is using, the kind of fuel he is burning, etc., and also how much he must enlarge or extend his chimney to obtain the draft required. The furnace manufacturer should supply the contractor who installs his furnaces with definite information regarding the rate of combustion that will give the best average efficiency under service conditions and the draft required to maintain this combustion rate. This information should be obtained by the manufacturer by careful tests of his different sizes and designs. With this information the contractor is in a position to make real use of his draft gauge, to locate draft defects without difficulty and to prove to the satisfaction of the owner that the furnace is not at fault.

For example, a certain furnace having a 24-inch firepot will operate at a good efficiency with a combus-



tion rate of seven pounds of coal per square foot of grate per hour. It requires a minimum flue area of 8 by 12 inches and a draft of .12 of an inch. If this information is furnished by the manufacturer, the contractor can check the actual area of the stack with the area called for by the manufacturer; he can check the actual draft with the draft required, and he can easily determine from suitable chimney draft charts how to correct the deficiencies, if such are found to exist.

Every agent or contractor who is installing furnaces should insist that

one far astray. Nevertheless, in the absence of definite experimental information such formulæ are justified and should be used.

The following formulæ are submitted by Mr. E. A. May, who has had many years of experience with these problems. While originally worked out for house heating boilers, we see no reason why they should not apply equally well in furnace work.

Let A = the depth of fuel in the firepot, expressed in inches.

B = the rate of combustion

on gauge expressed in inches of water.

To make the use of this formulæ clear, let us illustrate by an example. Figure 1 shows an outline of a common design of furnace having a 24-inch firepot. It is customary practice to fill the firepot with fuel from the grate to the bottom of the firing door. The depth of the fuel bed (A) in this case is 12 inches. The rate of combustion (B) varies naturally with the design of the furnace, kind of fuel and available draft. It is usually from 6 to 8 pounds per square foot of grate per

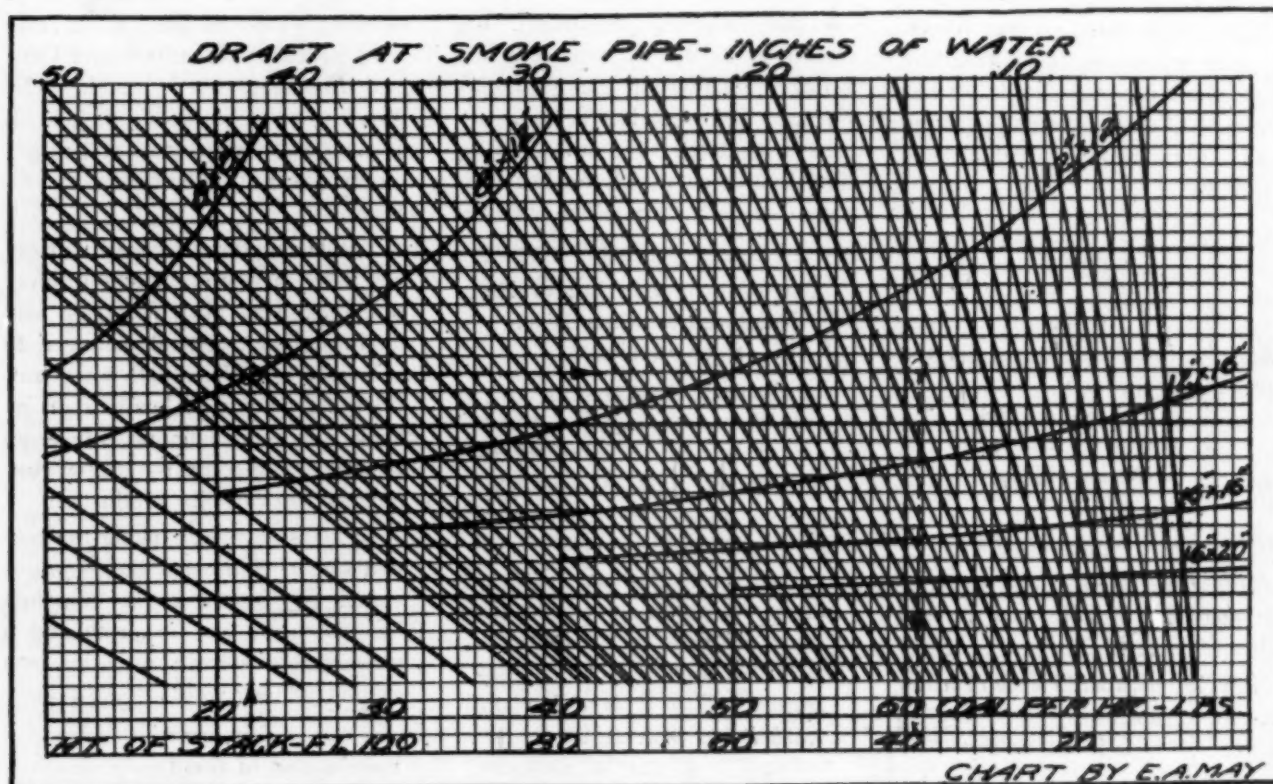


Figure 2

this information be furnished for every size and type of furnace. We do not recommend, however, that the man who is installing furnaces sit down and twiddle his thumbs until this information is obtained, as some manufacturers move slowly in matters of engineering research. We are going to suggest a short cut method that will be of considerable assistance if used with a reasonable amount of intelligence. We realize fully that empirical formulæ are much less reliable than actual test data and that they occasionally lead

(pounds of fuel burned per hour per square foot of grate).

C = length of fire travel in feet from the top of the fuel bed to the smoke pipe.

D = number of right angle turns of gas travel between fuel bed and smoke pipe, then

$$A + B \times .001 + C \times .001 + D \times .03$$

= draft required as shown

hour. The rate of combustion can be quite easily determined in a given furnace if this information is not furnished by the manufacturer by weighing the fuel fired for a 24-hour period and dividing the total number of pounds by the area of the grate in square feet and by 24. We will not be far astray in ordinary house heating furnaces if we assume a rate of combustion of 7 pounds of coal per square foot of grate per hour. The length of fire travel (C) is determined by measuring the distance from the top of

the fuel bed upward to the center of the radiator, outward to the outer central portion of the radiator outward to the central portion of the same and around to and into the smoke connection as shown by the dotted line in Figure 1. The gas travel is from M to Q, and in our present illustration would be about 10 feet.

M to N..... 2 feet
N to O..... 1½ feet
O around to P..... 4 feet
P to Q..... 2½ feet

Total 10 feet

D, in our formula, is the number of right angle turns of gas travel. By again examining the dotted line we see there is a right angle turn at N, one at O and one at P, or three in all. Our values, therefore, are as follows:

A = 12 inches
B = 7 pounds
C = 10 feet
D = 3

Substituting these figures for the letters in the formula, we have

$$\begin{aligned} 12 + 7 \times .001 &= .084 \\ 10 \times .001 &= .01 \\ \text{and } 3 \times .03 &= .09 \\ \hline &.184 \end{aligned}$$

Adding we find that the draft requirement for this furnace is .184 inches of water.

Now, let us proceed a step farther into the problem by referring to Figure 2, which is a chimney chart modified from Mr. May's Chart No. 1 for small heating boilers. In our problem the diameter of the grate is 24 inches, which gives an area of 3.14 square feet. With a rate of combustion of 7 pounds per square foot per hour, we have as the total amount of coal burned per hour 22 pounds. Locate this figure on the *coal burned per hour line* on the chart (see dotted line) and follow upward until we come to the curve indicating the size of the flue. Let us say the flue size is 8 by 12 inches. From this point follow the horizontal lines to the right until we come to the draft requirement as determined by our calculation, namely,

.184. Dropping from this point downward to the height of chimney required, we find that a 39-foot chimney of this area will give this draft. If this happens to be a trouble job we are discussing, the next thing to do is to set up our draft gauge and take a reading.

Simms Foundry Corporation Becomes Simmplex Furnace Company

New Company Takes Over Assets of Old and Continues Production at Full Capacity

THE Simms Foundry Corporation, Racine, Wisconsin, has ceased to exist. A new company under the name of the Simmplex Furnace Company has been organized in its stead. The new corporation, known as the Simmplex Furnace Company, has taken over the

are as follows: President, F. J. Greene; Vice-President, E. J. Harvey; Secretary-Treasurer and General Manager, F. J. Kidd. The directors of the company include all of the officers mentioned and in addition Peter C. Beck and G. G. Jones.

The Simmplex Furnace Company has been in operation and production since May 14, 1926. It is said by F. J. Kidd, general manager, to be amply capitalized and has a considerable volume of business on its books for immediate and future deliveries. The company is now running at full capacity production.

In addition to producing the regular line of Simmplex and Supreme warm air furnaces, the company has taken on and is producing a considerable volume of gray iron casting jobbing work.

Resolutions of Good Wishes for Edward V. Peters, New Jersey Zinc Executive

At a meeting of the executive committee of the New Jersey Zinc Company the following resolutions were adopted:

"Whereas, Edward V. Peters, who for the past seven years has served as general sales manager of the New Jersey Zinc Company and its subsidiary, the New Jersey Zinc Sales Company, has tendered his resignation with the intention of entering another line of business, it is, on motion duly made and seconded, hereby

"Resolved, that it is with deep re-

Can Warm Air Ducts Be Insulated Against Basement Noises?

TO AMERICAN ARTISAN:

Is there any way that warm air ducts can be insulated so that noises from the basement will not annoy the occupants of the first floor?

AMERICAN ARTISAN is rendering a great service to the trade and it is to be congratulated and thanked for the manner in which it is doing the work it has undertaken.

JUNIA B. ROBERTS.
Gary, Indiana.

properties, assets, etc., of the Simms Foundry Corporation.

The Simmplex Furnace Company as at present organized is practically a closed corporation. There are very few stockholders, all of these being residents of Racine. The personnel of the company is made up of men of large business interests in Racine, Wisconsin, practically all of them being either owners or connected with the largest business interests in that city.

The officers of the new company

gret and with a lively appreciation of the valuable service Mr. Peters has rendered our organization that we view his retirement from our sales staff; and

"Further Resolved, that we hereby tender to Mr. Peters our most cordial wishes for his continued success in whatever line of business he may engage."

Retail Salesman Has Responsibility to Customer

Impressions of Store and Its Policies Learned from Attitude of Clerks

WHETHER the retail salesman realizes it or not, he has a big responsibility on his shoulders. His primary job and object is to sell goods. However, connected with this job of selling goods, from which the store makes its profit, is another bigger responsibility—that of pleasing the customer, building good will for the store so that a customer will not make one purchase but three or four and then come back and buy again three, six or nine months later when he is again in the market.

To the real salesman this is no chore at all. He does it naturally, without giving the matter much thought. He makes his job of selling a matter of pleasing the customer, selling him something he wants; in addition to this he makes other helpful suggestions and in that way becomes a real service to the customer.

Many salesmen fail to realize that practically the only impression the customer gets of the store and its policies is what they experience at the hands of the salesman. The salesman is the owners' representative. He makes sales and takes the customer's money. For that reason he should be very careful to see to it that the customer leaves the store with a good impression—with a desire to want to come again when his needs again send him into the market.

Above all things, the salesman should know his stock. Nothing is more provoking to the customer than to be compelled to wait while the salesman fumbles around through the stock, producing articles which are not what is wanted and

then finally ending up being compelled to ask someone else information that should be knowledge possessed by the salesman himself.

It is a very simple matter for the salesman to put himself in the customer's place. He can imagine himself buying the article called for and in that way he will be in a better position to help the customer make the proper selection.

A willingness to render real service to each and every customer who honors the store with a visit should be the attitude for the salesman to adopt if he would succeed. He is the representative of the store and he must so represent the store that the customer feels at home in it.

Is New Competition Cutting Profits of Smaller Department Stores?

If So, Perhaps Some of the Reasons Are to Be Found Here

PRELIMINARY figures of operating expenses in department stores prepared by the Harvard University Bureau of Business Research show that 160 department stores doing a business of less than \$1,000,000 had total expenses in 1925 of 27.8 per cent and a gross margin of 28.3 per cent, leaving a paltry net profit of .5 per cent.

Throughout the country there are department stores doing a business of from three-quarters of a million to three millions who are finding it hard sledding—who find it difficult to maintain last year's volume. In many cases these stores were established fifty or sixty years ago and hold an estimable place in the com-

No retail store can hope to succeed whose clerks are indifferent to the needs of the customers and who do not ask customers to buy. Calling attention to the possible need for articles associated with the one which the customer came in voluntarily to secure has sold volumes of goods for the aggressive retail clerk. Customers gladly thank him for calling attention to these additional requirements. They are glad the suggestions were made.

Assisting a customer to purchase what he needs as determined by a clerk who really knows what the customer needs better than the customer does himself, is a business and good will building policy that will spell success to any establishment that employs it.

A distinction should be made, however, between unloading a large number of articles on an unsuspecting purchaser and selling the customer articles which intelligent questioning has shown that he needs. Preying upon a person's gullibility is not salesmanship in the true sense of the word. Such a policy can result only in suspicion and discredit.

munity, but they have been administered rather light-heartedly, with the result that the new chain store competition, found on high turnover, has come in and assumed the offensive.

The old established department store has the defects of its virtues. It has many employes who have been with it thirty-five or forty years and whom it cannot humanely let go, even though they have reached the peak of their value long ago. Every department store of this character has three or four pensioners who are receiving compensation commensurate with the years of their service.

Another thing that is making it

difficult for the medium size department store is the fact that it must have a buyer for each department; in many cases the volume of the department cannot justify such a department head, with the result that buying expenses run high, sometimes 4 per cent or 5 per cent, or even 6 per cent.

There are owners of department stores who are just beginning to perceive their difficulty and seeking to discover what they can do to put their stores in shape. They are beginning to realize the value of the best methods of merchandise control, of credit and collection methods, of training of help to sell in multiple departments, of matters of good organization and store management. In addition they are just coming to the realization that in many cases their profits come largely from purchase discounts rather than from store operation.

The next three or four years will be a critical period for the medium size department store. It will tell the story whether these stores will be as successful as in years past or whether they will succumb to the power of organized buying and more forceful management.

Business Survey for June, 1926, Shows Increase Over June, 1925

With the first half of the calendar year practically completed, it is possible to sum up the business and financial operations of the period and present a comparison with 1925. Total volume of business operations has exceeded the first half of last year, showing the usual downward tendency for the summer season.

Among the basic financial factors we find twelve moving upward and eighteen declining; of those factors governing commodities, we find thirty-one advancing and forty-five declining; in transportation and labor, six are advancing and eight moving downward, with the remaining factor of average commodity prices still indicating a downward movement. Of the one hundred

and twenty-two basic factors listed in the reference tables, covering the bulk of all financial and commercial operations, forty-nine factors indicate improvement while seventy-two indicate decline, showing a trend for April, May and June parallel with the trend during those months in 1925.

Although the declining tendency is the same as was in evidence at this time last year, the present business level is considerably above a year ago, as we reached a much higher point in the earlier weeks of the year. Of one hundred twenty-seven basic factors here listed, it will be seen that seventy-five show gains over a year ago while only fifty-two indicate declines. In financial lines, seventeen factors have improved while thirteen have declined; of the basic commodities factors, forty-eight have improved and thirty-one have declined; in transportation and labor, ten factors show improvement and seven indicate decline, with the remaining factor of average commodity prices showing a loss for the year.

Business operations for the second quarter of this year are estimated to be about 2 per cent over the second quarter of 1925 and about 2 per cent below the first quarter of 1926, the first quarterly period of this year showing an increase of fully 4 per cent over the first quarter of 1925. Business and financial operations for the first half of this calendar year have apparently exceeded the corresponding portion of any year of record, being higher than last year, materially higher than 1924, a shade over 1923 and exceeding 1919 or 1920, although figures for 1920 appear larger because of the higher average prices prevailing during the first half of that year. Even with crop prospects 2 per cent below last year, it is still possible for the total volume of transactions for 1926 to equal our best year and it is already practically certain that this year's volume will stand well above the average of the post-war years 1919-1925 inclusive.

Chicago Retail Hardware Outing to Be Held at Klein's Grove, Wednesday, July 14

The annual outing of the Chicago Retail Hardware Association will be held at Klein's Grove on the outskirts of Chicago, Wednesday, July 14, according to announcement being sent out by the Entertainment Committee. Klein's Grove is located at Crawford and Lincoln Avenues.

The manufacturers and jobbers, according to Secretary William Triesselmann, have been very liberal with their donations this year and for that reason the prizes offered will be larger in list than ever before.

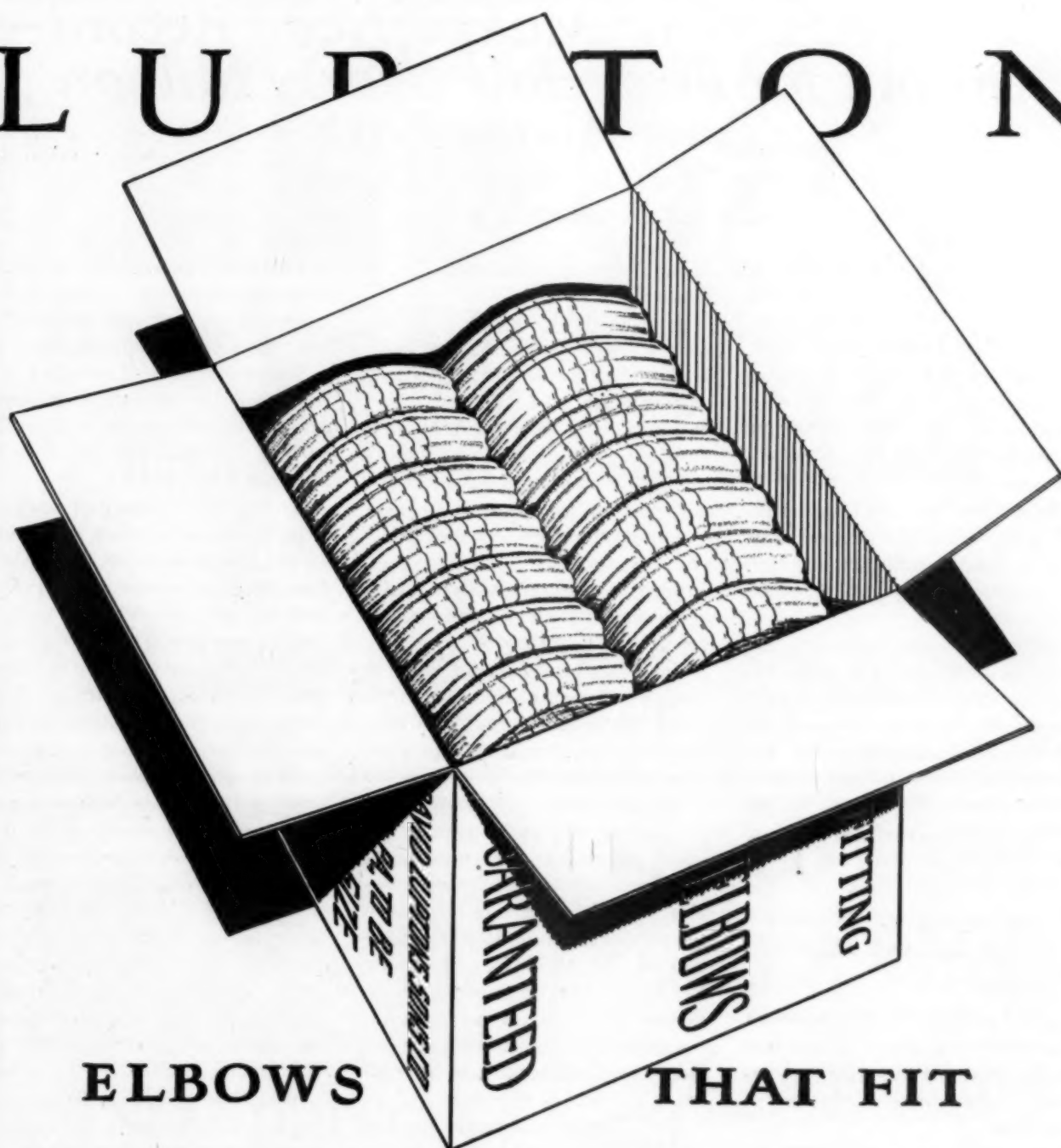
The outing held last year was the biggest one ever held in the history of the association. The representation of all classes—manufacturers, jobbers and dealers—was exceptionally encouraging, and the committee in charge is working overtime to provide for the entertainment of both young and old of all classes.

Tickets for the outing are being mailed by Secretary William Triesselmann to the membership, and checks should be mailed back to the secretary without delay. Secretary Triesselmann especially requests those mailing remittances to do so by check, as in that way there can be no mixup in giving each man credit as he deserves. Checks should be mailed to Secretary William Triesselmann, 3003 Belmont Avenue, Chicago.

C. K. Woodbridge Heads Ad Club of World— Denver Next Meeting Place

At the final session of the Associated Advertising Clubs of the World in Philadelphia this week, C. K. Woodbridge of New York was named president. The new secretary is Rowe Stewart of Philadelphia, while Francis H. Sisson of New York was named treasurer. Denver was selected as next year's convention city. A resolution changing the name of the organization to the International Advertising Association was adopted.

L U P T O N



ELBOWS

THAT FIT

You land the job. You figure close and you don't want to pay for anybody else's mistakes.

That's why it's a good plan to use Lupton Elbows . . . Lupton Elbows come to you cleanly galvanized, perfectly shaped, and pro-

tected from dents and dirt by the special Lupton cartons . . . A shipment of Lupton Elbows means a more profitable job for you—with no "misfits" to slow up the work. There's no difference in price, so use Lupton Elbows and know you're right. . . . *Specify them to your Jobber.*

DAVID LUPTON'S SONS CO., ALLEGHENY AVE. & TULIP ST., PHILADELPHIA

Say you saw it in AMERICAN ARTISAN—Thank you!

Steel Production Makes New Record— Output for First Half Nearly Million Tons Above Peak

*Pig Iron Is Active—Copper
Market Develops Firmer Tone*

A NEW record in steel production was made in the half year just ended. With June estimated, the total is close to 24,250,000 tons, or nearly 1,000,000 tons in excess of the best previous record in a like period, which was made in 1923, according to The Iron Age. The report adds:

"July opens with the prospect of mill operations in the next 60 days at a rate substantially above the July-August average of the past three years.

That 1926 may exceed the remarkable steel output of 1925 is now no longer considered highly improbable, though commonly so regarded at the beginning of the present year.

"Exceptionally gradual is the present decline in the production of both steel and pig iron.

"The estimated ingot rate for June is close to 80 per cent, against 84 per cent in May, 88 per cent in April and 92.5 per cent in March."

Demand for steel sheets is in greater volume in the Chicago and Pittsburgh districts. Orders are coming in at a better rate and demand is more diversified than in some time.

Western makers are curtailing operations because of the season of the year, but an operating rate of at least 65 per cent is expected to be maintained in the next few months.

The curtailment in production both in Pittsburgh and Chicago will enable mills to accumulate better backlogs in the next few weeks.

Operations in the sheet industry in the west have been at close to capacity for some time and consumers were able to get fairly prompt deliveries.

Extremely warm weather in the next few months would undoubtedly result in schedules below 65 per

cent of capacity as planned.

Copper

Sympathetically a little firmer tone was developed in the local market but there were still ready sellers of electrolytic at 13.87½ cents delivered in the Connecticut Valley for July, August, September shipment while consumers remained reserved as for the last week.

Apparently there is small prospect of any early improvement in buying on domestic account, certainly not until after the national Independence holiday.

There is nothing in sight which is likely to cause an appreciation of prices in the near future with production more than ample to meet current requirements.

Refinery positions were dull and the market was easier with prices about five points lower, without attracting buyers. Electrolytic is quotable at 13.75 cents f. o. b. refinery for prompt and July, 13.80 cents for August and 13.85 for September but it would be necessary to shade these prices to develop any interest.

Casting copper remained quiet but steady at 13.40 cents f. o. b. refinery.

Lake copper continued dull but steady at 14.00 cents delivered.

Tin

The New York market opened with a good inquiry from dealers, sellers declining to commit themselves, and around mid-day sales were made to traders at 61.62½ cents for prompt, 61.50 cents for July, 61.00 cents for August, 60.87½ cents for September.

Later, September is reported to have sold at 61.00 cents.

The buying has been apparently entirely by traders, consumers continuing to show little interest except there is some limited inquiry for prompt shipment from consumers.

The tone of the market in New York is completely changed from yesterday when it was difficult to sell September tin at 60.50 cents.

On an advance in London of say ten points our market has improved easily 37½ points or more, and sellers shy.

Pig Iron

At New York buying of foundry iron in local territory continues active. In the last two days orders have been placed for about 11,000 tons but new inquiries are smaller both in number and in tonnage and the total under negotiation has been reduced to about 6,000 tons.

One firm closed on 4,300 tons of their recent inquiry and are expected to close for an equal tonnage today. Another sale of 2,000 tons was made yesterday and today three lots of 1,000 tons each were taken by three different agents. Other sales reported today included carloads up to 250 tons.

The Eastern Malleable is understood to have closed for 1,500 tons of malleable iron for its Wilmington, Delaware, plant.

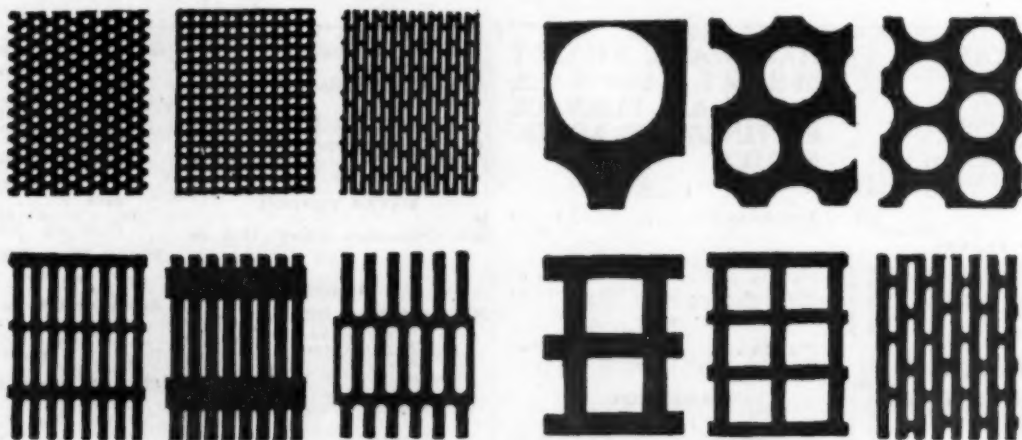
Old Metals

Wholesale quotations in the Chicago district, which should be considered as nominal, are as follows: Old steel axles, \$17.50 to \$18.00; old iron axles, \$25.50 to \$26.00; steel springs, \$18.50 to \$19.00; No. 1 wrought iron, \$13.00 to \$13.50; No. 1 cast, \$15.50 to \$16.00, all per net tons. Prices for non-ferrous metals are quoted as follows, per pound: Light copper, 9 cents; zinc, 5 cents, and cast aluminum, 19 cents.

Solder

Chicago warehouse prices on solder are as follows: Warranted 50-50, \$39.25; commercial 45-55, \$36.75, and plumbers', \$34.25, all per 100 pounds.

PERFORATED METALS



All Sizes and Shapes of Holes in all Kinds and Thicknesses of Metal.

Punched Metal Grilles, Register Faces, Ventilators, etc.

Guard Material for Machines and Belts. We supply a complete line of Accessories

Screens for Grain, Minerals or anything to be screened.

Perforated Tin and Brass always in stock

THE HARRINGTON & KING PERFORATING CO.

5649 FILLMORE STREET, CHICAGO, ILLINOIS, U. S. A.

New York Office: 114 Liberty Street



The mark of superior quality on Galvanized Steel Sheets

INLAND "TEC" Master Brand Sheets

Inland "TEC" Master Brand sheets are now available. The Master Brand mark signifies that the sheets bearing it have been manufactured under the exacting specification of the Trade Extension Committee and are subject to constant inspection and test. Inland Master Brand sheets carry a double assurance of uniform quality; each sheet also carries the Inland brand mark.

INLAND STEEL COMPANY

General Offices: 38 South Dearborn Street, Chicago

Mills: Indiana Harbor, Ind., Chicago Heights, Ill., Milwaukee, Wis.

Branch Offices and Representatives

St. Paul Seattle St. Louis San Francisco Salt Lake City
Milwaukee Kansas City New Orleans Los Angeles

ARMCO INGOT IRON

The Purest Iron Made

ARCHITECTS and Contractors are well acquainted with this long-lasting sheet metal. Our stock includes every size and gauge required by the trade.

"Since 1866" we have been serving and satisfying customers in all parts of the country.

Everything in Sheet Metal

Coke and Charcoal
Tin Plate
Roofing Plate
Conductor Pipe
Gutter
Tinner's Supplies

Brass—Copper
Nickel
(in all forms)
"Mond-70"
Babbitt
Solder

MERCHANT & EVANS CO.

PHILADELPHIA

WAREHOUSES

NEW YORK CLEVELAND
KANSAS CITY DETROIT
CHICAGO



Mention AMERICAN ARTISAN in your reply—Thank you!

Chicago Warehouse Metal and Furnace Supply Prices

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS

PIG IRON

Chicago Foundry.....	\$22 00
Southern Fdy., No. 2, 27 01 28 01	
Lake Superior Charcoal....	29 04
Malleable	23 00

FIRST QUALITY BRIGHT TIN PLATES

IC 20x28 112 sheets....	\$25 10
IX 20x28.....	29 60
IXX 20x28 56 sheets....	16 20
IXXX 20x28.....	17 55
IXXXX 20x28.....	18 95

TERNE PLATES

IC 20x28, 40-lb. 112 sheets	\$27 90
IX 20x28, 40-lb. " "	30 90
IX 20x28, 25-lb. " "	22 20
IX 20x28, 25-lb. " "	25 20
IX 20x28, 20-lb. " "	20 25
IV 20x28, 20-lb. " "	23 60
IC 20x28, 15-lb. " "	16 55

"ARMCO" INGOT IRON PLATES

No. 8 ga. up to and including	
1/4 in.—100 lbs.....	4 55

COKE PLATES

Cokes, 80 lbs., base, 20x28.	\$12 60
Cokes, 90 lbs., base, 20x28.	12 80
Cokes, 100 lbs., base, 20x28.	13 00
Cokes, 107 lbs., base, 1c	
20x28.....	13 30
Cokes, 135 lbs., base, IX	
20x28.....	15 70
Cokes, 155 lbs., base, 56	
sheets.....	8 70
Cokes, 175 lbs., base, 56	
sheets.....	9 55
Cokes, 195 lbs., base, 56	
sheets.....	10 40

BLUE ANNEALED SHEETS

Base 10 ga.....per 100 lbs.	\$2 80
"Armco" 10 ga.....per 100 lbs.	4 00

ONE PASS COLD ROLLED BLACK

No. 15-20.....per 100 lbs.	\$3 90
No. 22-24.....per 100 lbs.	3 95
No. 26.....per 100 lbs.	4 00
No. 27.....per 100 lbs.	4 05
No. 28.....per 100 lbs.	4 10

GALVANIZED

"Armco" 28.....per 100 lbs.	\$6 70
No. 16.....per 100 lbs.	4 50
No. 18-20.....per 100 lbs.	4 55
No. 22-24.....per 100 lbs.	4 80
No. 26.....per 100 lbs.	4 95
No. 27.....per 100 lbs.	5 10
No. 28.....per 100 lbs.	5 25
No. 30.....per 100 lbs.	6 75

BAR SOLDER

Warranted	
50-50.....per 100 lbs.	39 25
Commercial	
45-55.....per 100 lbs.	36 75
Plumbers.....per 100 lbs.	34 25

ZINC

In Slabs.....	8 50
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SHEET ZINC

Cash Lots (600 lbs.).....	12 75
Sheet Lots.....	14 75

BRASS

Sheets, Chicago base.....	18 75
Mill base.....	18 75
Tubing, brazed base.....	27 75
Wire, base.....	19 75
Rods, base.....	16 75

COPPER

Sheets, Chicago base.....	22 75
Mill base.....	22 75
Tubing, seamless base.....	25 75
Wire No. 9 & 10, B & S. Ga.	
Wire No. 11, B & S. Ga.....	20 75

HARDWARE, SHEET METAL SUPPLIES, WARM AIR FURNACE FITTINGS AND ACCESSORIES.

LEAD

American Pig.....	\$ 9 10
Bar.....	10 10

Sheet

Pig Tin.....per 100 lbs.	69 00
Bar Tin.....per 100 lbs.	70 00

TIN

Pig Tin.....per 100 lbs.	69 00
Bar Tin.....per 100 lbs.	70 00

ASBESTOS

Paper up to 1/16.....	6c per lb.
Roll board.....	6 1/2c per lb.
Mill board 7/16 to 1/2.....	6c per lb.
Corrugated Paper (250	
sp. ft. to roll).....	\$6.00 per roll

BRUSHES

Hot Air Pipe Cleaning	
Bristle, with handle, each	\$0 55

Flue Cleaning

Steel Only, each.....	1 25
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BURRS

Coppers Burrs only.....	45%
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CEMENT, FURNACE

American Seal, 5-lb. cans, net	\$ 45
American Seal, 50-lb. cans, net	90
American Seal, 25-lb. cans, net	3 00
Asbestos, 5-lb. cans, net.....	45
Pecora.....per 100 lbs.	7 51

CHIMNEY TOPS

Iwan's Complete Rev. &	
Vent.....	30%
Iwan's Iron Mountain only.....	35%
Standard.....	\$0 to 40%

CLINKER TONGS

Front Rank, each.....	\$ 75
Per doz.....	\$ 40

CLIPS

Damper	
Acme, with tall pieces,	
per doz.....	\$1 25
Non Rivet tall pieces,	
per doz.....	35

COPPERS—Soldering

Pointed Roofing	
3 lb. and heavier.....per lb.	40c
2 1/2 lb.per lb.	45c
2 lb.per lb.	45c
1 1/2 lb.per lb.	55c
1 lb.per lb.	60c

CORNICE BRAKES

Chicago Steel Bending	
Nos. 1 to 6B.....	Net

COUPLING HOSE

Brass.....	2.....per doz. \$3 20
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CUT-OFFS

Muehn's Korrekt Kuttoff:	
Galv., plain, round or cor. rd.	
standard gauge.....	40%
28 gauge.....	30%

DAMPERS

"Yankee" Hot Air	
7 inch, each 20c, doz.....	\$1 75
8 inch, each 25c, doz.....	2 40
9 inch, each 30c, doz.....	2 75
10 inch, each 32c, doz.....	3 00

Smoke Pipe

7 inch, each.....	\$ 35
8 inch, each.....	40
9 inch, each.....	50
10 inch, each.....	60
12 inch, each.....	90

Reversible Check

8 inch, each.....	\$1 50
9 inch, each.....	1 70

DIGGERS

Post Hole	
Iwan's Split Handle	
(Eureka)	
4-ft. Handle...per doz.	\$14 00
7-ft. Handle...per doz.	25 00
Iwan's Hercules pattern,	
per doz.....	14 90

HAVERS TROUGH

Galv. Crimpedge, crated...75 & 5%	
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ELBOWS

Conductor Pipe Milcor.	
Galv., plain or corrugated,	
round flat Crimp.	
Std. Gauge.....	65%
28 Gauge.....	60%
26 Gauge.....	45%
24 Gauge.....	10%

Square Corrugated

Standard Gauge.....	50%
No. 28 Gauge.....	45%
28 Gauge.....	30%

Fortico Elbows

Standard Gauge Conductor Pipe,	
plain or corrugated.	
Not nested.....	70 & 5%
Nested solid.....	70 & 5%

ELBOWS—Stove Pipe

1-piece Corrugated, Uniform Blue	
"Milcor" No. 28 gauge.	
Dos.	
5-inch.....	\$1 15
6-inch.....	1 25
7-inch.....	1 75

Special Corrugated

6-inch.....	\$1 00
7-inch.....	1 60

Adjustable—Uniform Blue

"Milcor" No. 28 Gauge, Uniform	
Blue.	
5-inch.....	\$1.55
6-inch.....	1 75
7-inch.....	2 40

WOOD FACES—50% off list.

FENCE	
726-6-12% (100 rods).....	\$29 02
1945-6-14% (100 rods).....	44 02

FILES AND RASPS

Heller's (American).....	50-10%
American.....	50-10%
Arcade.....	50%
Black Diamond.....	40-10-5%
Eagle.....	50%
Great Western.....	50%
Kearney & Foot.....	50%
McClellan.....	50%
Nicholson.....	50%
Simonds.....	40%

FIRE POTS

Otto Bernz Co.	
East of west boundary line of	
Province of Manitoba, Canada,	
No. Dakota, So. Dakota, Nebraska,	
Kansas, Oklahoma, Amarillo,	
San Angelo and Laredo,	
Texas.....	65%

West of above boundary 61%

Clayton & Lambert's	
East of west boundary line of	
Province of Manitoba, Canada,	
No. Dakota, So. Dakota, Nebraska,	
Kansas, Oklahoma, Amarillo,	
San Angelo and Laredo,	
Texas.....	52%

West of above boundary line

.....	42%
-------	-----

Geo. W. Diener Mfg. Co. Ma

No. 62 Gasolene Torch. 1	
qt.....	\$ 5 50
No. 6350, Kerosene, or	
Gasolene Torch, 1 qt..	7 50
No. 10 Tinner's Furn.	
Square tank, 1 gal.....	12 00
No. 15 Tinner's Furn.	
Round tank, 1 gal.....	12 00
No. 21 Gas Soldering Furn.	
.....	3 00
No. 110 Automatic Gas	
Soldering Furnace.....	10 50

Double Blast Mfg. Co.

Gasolene, Nos. 25 and 36.....	50%
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Quick Meal Stove Co.

Vesuvius, F. O. B. St. Louis 20w	
(Extra Discat. for large	
quantities)	

Chas. A. Homes, Inc.

Buzzer No. 1.....	\$ 9 00
Buzzer No. 2.....	12 00
Buzzer No. 3.....	12 50
Buzzer No. 4.....	15 00
Buzzer No. 43.....	19 00

GALVANIZED WARE

Pails (Galv. after made),	
10-qt.....	\$3 25

Tubs (Galv. after made).

No. 1.....	\$6 25
No. 2.....	7 20

GLASS

Single Strength, A, 25-in.	
brackets.....	55%
Single Strength, A, 34 to 40-	
in. bracket.....	52%
Single Strength A, all other	
brackets.....	51%
Double Strength A, all sizes.....	52%

HANGERS

Conductor Pipe	
Milcor Perfection Wire.....	55%

Haves Trough

Milcor Helpee Wire.....	15%
Milcor Triplex Wire.....	10%
Milcor Milwaukee Extension 10%	
Milcor Steel (galv. after	
forming) List plus.....	12 1/2%
Milcor Selflock E. T. Wire,	
List plus.....	50%

Hooks

Box	
V. & B. No. 1, each.....	\$0 20

Conductor

Milcor	
"Direct Drive" Wrought	
Iron for wood or brick.....	15%

May

V. & B. No. 1, each.....	\$0 20
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HUMIDIFIERS

"Front-Back," Automatic	
In single lots.....	50%
In lots of 10 or more.....	50-5%
In lots of 25 or more.....	50-10%
Vapor pans, etc., each.....	50%

LIFTERS

Steve Cover	
Coppered.....per gro.	\$4 00
Alaska.....per gro.	4 75

MAILETS

Tinner's	
Hickory.....per doz.	\$3 25

MITRES

Galvanized steel mitres, and	
caps, end pieces, outlets.....	30%

Milcor

Galv. one piece stamped.....	40%
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NAILS

Cut Steel.....	\$4 00
Cut Iron.....	4 50

Wire

Common.....	\$ 15
Cement Coated.....	3 50

(Continued on page 44)

VENTILATORS

We carry a full line of the below named well known ventilators:

EARLE	IWAN'S	"ROYAL"
PERFECTION	STANDARD	GLOBE
HERCULES	"STAR"	UNO
AMERICAN-LARSON	"BEST"	

We can make prompt shipments on your orders for anything in the sheet metal line.

Try us—write for catalog today

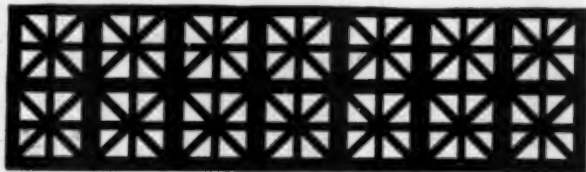
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All Thicknesses of Metal

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Write for quantity discount.



Inexpensive!

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Markets—Continued from page 34

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MACHINISTS'**

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Cast Iron Foot Power
No. 01—30", 18 ga. cap....189

Lead
Per 100 lbs.....\$12 50

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Galv. Std. Gauge, Plain or	
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26 gauge round flat crimp..	40%
34 gauge round flat crimp..	10%
Conductor	65%

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Commercial Putty, 100-lb.
kits 88 40

REDUCERS—Oval Stove Pipe
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7—6, 1 doz. in carton.....\$2 00

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Baseboard	40%
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Plated, 4x6 to 14x14.....	40%
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14x14 to 38x42	60%
Large Register Faces—Steel,	
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Milcor
Galv., Plain Ridge Roll,
b'dld75-10-5%
Galv., Plain Ridge Roll,
crated75-10%
Globe Finials for Ridge Roll..50%

SNIPS, TINNERS'

Clover Leaf	40 & 10%
National	40 & 10%
Star	50%
Milcor	No

SQUARES

Steel and Iron.....	Net
(Add for bluing, \$3 per doz. net.)	
Mitre	Net
Try	Net
Try and Bevel.....	Net
Try and Mitre.....	Net
Fox's	per doz. \$5 00
Winterbottom's	100

STOPPERS, FLUE

Common	per doz.	\$1 10
Gem. No. 1.....	per doz.	1 10
Gem. flat. No. 2...	per doz.	1 00

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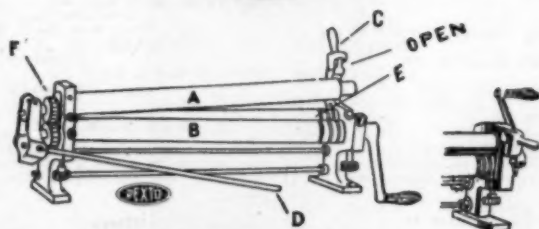
Standard 20 to 40%

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Plain annealed wire, No. 8	
per 100 lbs.	\$3 00
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13-mesh, per 100 sq. ft.	\$2 10
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weight spool, per	
100 lbs.	\$2 00
Galvanized Hog Wire, 50 rod	
spool, per spool.	\$2 00
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per 100 lbs.	\$2 00
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No. 670,	Domestic	per doz.	41 50
No. 110,	Brighton	per doz.	42 50
No. 750,	Guarantee	per doz.	55 00
No. 740,	Bicycle	per doz.	52 50
No. 23,	pioneer	per doz.	39 00
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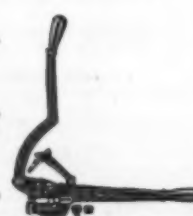


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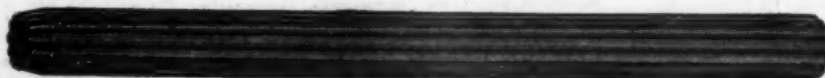
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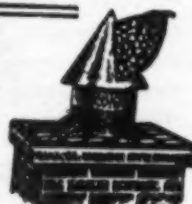
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Eaves Trough.
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Eaves Trough.
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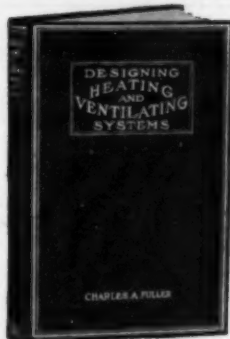
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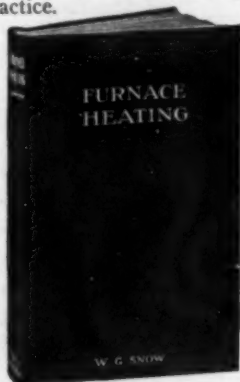
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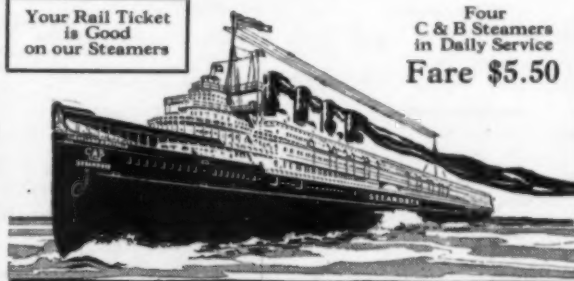
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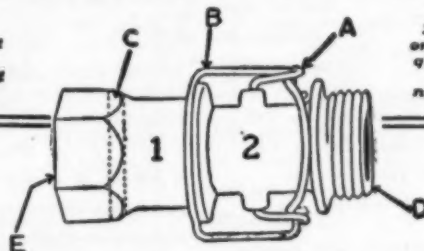
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Chicago, Ill.
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Granite City, Ill.
Inland Steel Co.,
Chicago, Ill.
Merchant & Evans Co.,
Philadelphia, Pa.
Milwaukee Corrugating Co.,
Milwaukee, Wis.
National Enameling and Stamping Co.,
Granite City, Ill.
Osborn Co., The J. M. & L. A.,
Cleveland, Ohio
Wheeling Corrugating Co.,
Wheeling, W. Va.

Roofing—Tin.

Taylor Co., N. & G.,
Philadelphia, Pa.
Wheeling Corrugating Co.,
Wheeling, W. Va.

Roofing—Zinc.

New Jersey Zinc Sales Co., The,
New York, N. Y.

Rubbish Burners.

Hart & Cooley Co.,
New Britain, Conn.

Salt—Ammoniac.

Special Chemicals Co.,
Highland Park, Ill.

Schools—Sheet Metal Pattern Drafting.

St. Louis Technical Institute,
St. Louis, Mo.

Screws—Sheet Metal.

Parker-Kalon Corp.,
New York, N. Y.

Screens—Perforated Metal.

Harrington & King Perforating Co.,
Chicago

Shears—Hand and Power.

Double-Duty Elbow Co.,
Aurora, Ill.
Marshalltown Mfg. Co.,
Marshalltown, Iowa
Peck, Stow & Wilcox Co.,
Southington, Conn.
Unishear Co., The,
New York
Viking Shear Co.,
Erie, Pa.

Sheets—Black and Galvanized.

American Rolling Mill Co.,
Middletown, Ohio
Davis Co., Inc., C. S., Chicago, Ill.
Granite City Steel Works,
Granite City, Ill.
Inland Steel Co.,
Chicago, Ill.
Merchant & Evans Co.,
Philadelphia, Pa.
Milwaukee Corrugating Co.,
Milwaukee, Wis.
National Enameling and Stamping Co.,
Granite City, Ill.
Osborn Co., The J. M. & L. A.,
Cleveland, Ohio
Taylor Co., N. & G.,
Philadelphia, Pa.
Wheeling Corrugating Co.,
Wheeling, W. Va.

Sheets—Iron.

American Rolling Mill Co.,
Middletown, Ohio
Merchant & Evans Co.,
Philadelphia, Pa.

Sheets—Tin.

Davis Co., Inc., C. S., Chicago, Ill.
Granite City Steel Works,
Granite City, Ill.
Merchant & Evans Co.,
Philadelphia, Pa.
National Enameling and Stamping Co.,
Granite City, Ill.
Taylor Co., N. & G.,
Philadelphia, Pa.

Sheets—Zinc.

New Jersey Zinc Sales Co., The,
New York, N. Y.

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Milwaukee Corrugating Co.,
Milwaukee, Wis.
Wheeling Corrugating Co.,
Wheeling, W. Va.

Shingles—Asphalt.

Sall Mountain Co.,
Chicago, Ill.

Shingles—Zinc.

Milwaukee Corrugating Co.,
Milwaukee, Wis.

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Chicago, Ill.

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David Lupton's Sons Co.,
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Milwaukee Corrugating Co.,
Milwaukee, Wis.

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Granite City Steel Works,
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Milwaukee Corrugating Co.,
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National Enameling and Stamping Co.,
Granite City, Ill.
Osborn Co., The J. M. & L. A.,
Cleveland, Ohio
Taylor Co., N. & G.,
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Marshalltown Mfg. Co.,
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Osborn Co., The J. M. & L. A.,
Cleveland, Ohio.
Peck, Stow & Wilcox Co.,
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Clayton & Lambert Mfg. Co.,
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Diener Mfg. Co., G. W.,
Chicago, Ill.
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Sheet Steel Trade Extension Committee,
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Any yearly subscriber to AMERICAN ARTISAN may insert advertisements of not more than fifty words in our Want and Sales Columns WITHOUT CHARGE.

Such advertisements, however, must be limited to help or situation wanted, tools or equipment for sale, to exchange or to buy, business for sale or location desired.

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For Sale—Sheet metal and furnace shop fully equipped, established for 28 years. Excellent location and plenty of work the year around. A good opportunity for some one who understands the business. I have made quite a fortune and on account of old age wish to retire. My price is \$2,000 and will invoice stock at market price. Do not let this opportunity go by if you want a good business. Address W. R. Davis, 6103 Delmar Blvd., St. Louis, Missouri. 23-3t.

For Sale—Only exclusive hardware and implement business in town of 900. Located in the beautiful lake region of central Minnesota, and in a fast growing dairy community. Splendid opening for tinner and plumber. Good reasons for selling. No trades considered. Address B-99, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 25-3t.

For Sale—Good sheet metal contracting business, north side, Chicago; established in 1916; fully equipped; excellent location; plenty of work the year around. Shop in new building. Will consider partner or sell reasonably priced. Owner has other business interests. Address X-2, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 25-3t.

For Sale—Foundry hot air furnace and general foundry plant; in city of 100,000; 6 acres; trackage; modern equipment. Ideal for large automotive production; going business. Selling account other interests. \$120,000 deal; one-half cash. Midland Commercial Brokers, Danville, Illinois. 25-3t.

Mr. Tinner—Turn your scrap pile into money by manufacturing metal letter boxes; every dwelling a prospect; sample letter box furnished, postage paid, upon receipt of price, \$1.00. Address P. H. Cotton Metal Works, 4628 Bienville St., New Orleans, Louisiana, America's most interesting city. 1-3t.

For Sale—Plumbing and heating business with opening for good furnace man. Best location. Established 18 years. No limit to business. Is leading firm in this line. Reason for selling, age and health. Have other lines. Take as much as you want; will invoice and sell or rent building. Write for full details. Box 126, Marengo, Illinois. 24-3t.

For Sale—Or lease, fully equipped tin shop. I run plumbing shop in connection, but will run that myself. Will go half in rent, lights and fuel. Good place for live tinner. A good proposition. Address —Ed. Rinke, Flat River, Missouri. 26-3t.

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For Sale—Established fully equipped tin shop in Fort Arthur, Texas. Population 40,000. Retiring on account of old age. Opportunity for a hustler. Address —P. A. Wutke, 1712 5th Street, Fort Arthur, Texas. 1-3t.

For Sale—Tin shop in Chicago. Consisting of brakes, benches, rollers, etc., complete. Address—X-5, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 26-3t.

HELP WANTED

Wanted—First class sheet metal worker experienced in all kinds of general job work, and furnace work. One who can lay out own patterns. A good steady job the year around to man who can deliver the goods. John F. Cartwright, Bowling Green, Ky. 24-3t.

Wanted—At once tinner and furnace workman with some experience in plumbing. Steady work for party that can handle work. Address—Stelzer & Schmidt Co., Mishicot, Wisconsin. 24-3t.

Wanted—At once, combination plumber, tinner and heating man. One who can estimate and layout his own work. Address Box 15, Albion, Nebraska. 25-3t.

Wanted—First-class plumber, steam and hot water fitter. Steady job the year around. Address—Wm. Serres, Algonquin, Illinois. 26-3t.

Wanted—Good reliable plumber. Address—Charles Soames, 15 West 5th Street, Peru, Indiana. 1-3t.

HELP WANTED

Wanted—Two good capable mechanics. Steady work and good salary for men that are able to do sheet metal and furnace work. State wages expected when writing. Address Klinsmann Co., Fargo, North Dakota. 25-3t.

Wanted—First class sheet metal worker. Experienced in all kinds of general job work and furnace work. Steady job the year around to man who can fill the bill. Address—Bodlak's Tin Shop, Devils Lake, North Dakota. 26-3t.

Wanted—Furnace salesman for Springfield, Missouri; city of 65,000 population. Good wages for man that can get business. Address—W. L. Woodruff Furnace Company, 314 South Avenue, Springfield, Missouri. 26-3t.

Wanted—At once a man that can do work that comes in a country tin shop. Also some knowledge of plumbing. I will pay \$30.00 per week the year around for this kind of man. Address—O. L. Doward, Mt. Morris, Illinois. 1-3t.

Wanted—Competent steam fitter and plumber, capable of reading blue prints. Steady position to right man. Address X-1, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 25-3t.

SITUATION WANTED

Situation Wanted — Competent sheet metal worker of 13 years' experience desires to make a connection with a good reliable sheet metal shop or hardware store. Can lay out patterns and erect any sheet metal job or warm air heating system. Nothing but a steady year around proposition considered. Prefer Minnesota or neighboring states. Address X-8, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 26-6t.

Situation Wanted—By sheet metal worker, years of experience in furnace installation and repair. Familiar with blue print and drafting, shop work and pipe fitting. A-1 reference. West or Southwest preferred. Married. Age 39, non-employed. Change desired. Address—A. T. Anderson, 1213 Grand Avenue, Charles City, Iowa. 1-3t.



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Situation Wanted—By first class furnace man and sheet metal worker. Capable of supervising installers, some engineering experience. 14 years general experience. Can lay out and erect jobs in proper manner. State hours, wages in first letter. Address X-11, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 1-3t.

Situation Wanted—By a good reliable, steady tinner and furnace man; age 35; with plenty of experience in all lines of sheet metal work. Would take over shop that has plenty of work on percentage basis. Please state hours and wages. Address J. J. Fritch, 1175 West 9th Street, Des Moines, Iowa. 25-3t.

Situation Wanted—By all around sheet metal worker; 20 years' experience. Lay-out cornice, skylight, blow pipe and ventilation, also furnace work from blue prints. First class workmanship guaranteed. Address X-6, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 26-3t.

Situation Wanted—Warm air heating engineer and furnace salesman of unusual ability and with best references. Employed at present. desire to connect with live company and good furnace line. Address X-12, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 1-3t.

Situation Wanted—By an all around plumber, tinner and furnace man, who understands steam and hot air heating and all around repairing. Will go anywhere. Address X-9, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 1-3t.

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Wanted—To buy, a hand lever deep throat shear, similar to the Gallagher pattern. Capacity No. 14 gauge steel. Also an extra small burring and turning machine; each must be in best of working condition and low in price. Address—Dean Specialty Works, San Antonio, Texas. 26-3t.

For Sale—Strips of No. 26 gauge galvanized iron average size 3 3/4 to 4 1/4 wide by 30-in. long cut from ends of new prime stock sheets. Approximately 2 1/2 tons. Offer price. Address—Edward M. Lyons, Sheet Metal Works, 359 North Clark Street, Chicago, Illinois. Telephone Delaware 5859. 1-4t.

For Sale—Cheap if taken soon. One No. 615 American Steam Boiler, in A-1 condition, excepting crack in rear section. Been in use about four years, the last part of the season with this section plugged. Address—Box 342, Odell, Illinois. 21-3t.

For Sale—Large Quickwork Universal Machine in a very good condition, with a large assortment of rollers and swedges included. Price \$175.00 f. o. b. Cincinnati, Ohio. Address—West End Exhaust & Blow Pipe Works, 1921 Gest St., Cincinnati, Ohio. 24-3t.

For Sale—2 pair 30-in. rollers, \$25.00 cash. 1 Western Triumph square shear, \$25.00. Also complete set roofing and plumbing tools. Write for price. Closing out estate. Address—W. L. Salyers, administrator, Carrollton, Ky. 26-3t.

For Sale—One Peck Stow Wilcox No. 130 "A" square shears in good condition. Price \$30.00 f. o. b. Kalamazoo, Mich. Metzger Sheet Metal Works, 144 No. Edwards Street. 24-3t.

For Sale—A full and complete outfit of plumbers' and steamfitters' tools. All in first-class condition. A list and prices sent on application. Address Roy S. Lash, Lexington, Nebraska. 1-3t.

Wanted—Crimping or corrugating roll, for 18-in width and 1/2-in. by 1/2-in. corrugation. State bargain price. Address—N. L. Hall, Box 282, La Salle, Illinois. 26-3t.

TINNERS' TOOLS

Wanted—A full set of tinner's tools; also brake, shears and punch press. What have you and what price. Elmer Haverstock, Route 8, South Bend, Indiana. 25-3t.

Wanted—Good used adjustable bar-folder, 30 inch. Give full description, make and price in first letter. Address Box 38, Fredonia, Pennsylvania. 25-3t.

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SITUATION WANTED

With Furnace Manufacturer. Married man, 38 years old. Have had several years experience in warm air heating business. Know how to plan, sell and install. Would like to secure position with some good furnace manufacturer in the office as assistant or to do any kind of detail work. Would not object to do some traveling on expert work. Address L-69, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 24-1t.

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Would prefer negotiating with applicants between age of 24 and 27 who have had considerable retail selling experience in Hardware or Contracting shops. Address L-67, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 22-3t.

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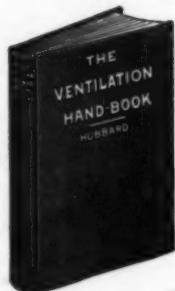
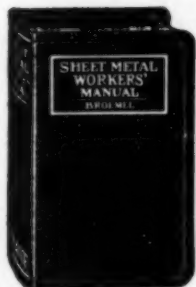
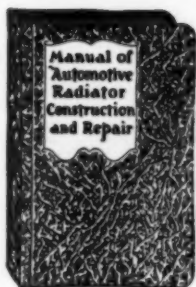
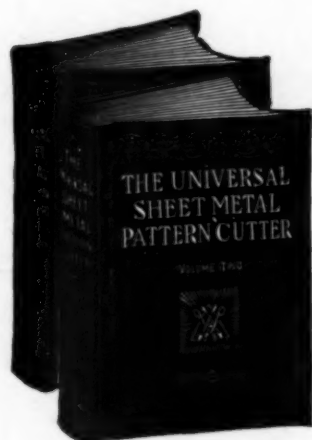
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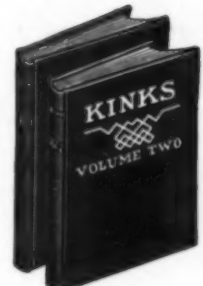
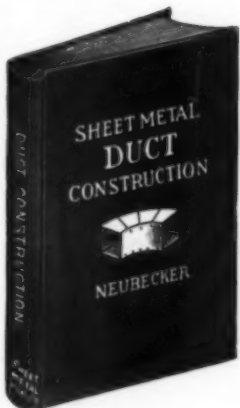
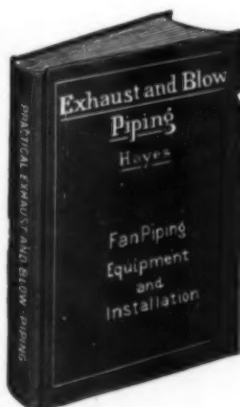
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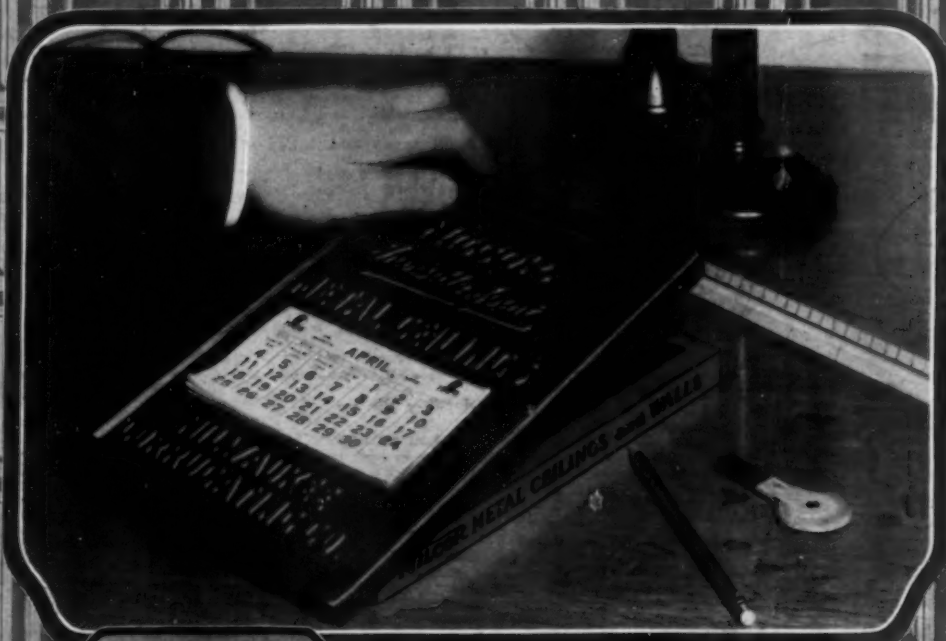
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